LIBRARY OF
SCHOOL OF EDUCATION
BOSTON UNIVERSITY

THE SCHOOL REVIEW

A JOURNAL OF SECONDARY EDUCATION

VOLUME XXXVI MAY 1928 NUMBER 5

Educational News and Editorial Comment

ANNUAL MEETING OF THE NORTH CENTRAL ASSOCIATION OF COLLEGES AND SECONDARY SCHOOLS

The North Central Association of Colleges and Secondary Schools held its thirty-third annual meeting in Chicago March 15 and 16, 1928. The work of the association is very largely carried on by three standing committees known as "commissions"—the Commission on Institutions of Higher Education, the Commission on Secondary Schools, and the Commission on Unit Courses and Curricula. These commissions prepare reports which are later submitted to the association for consideration.

The meetings of the Commission on Institutions of Higher Education attracted more attention this year than did the meetings of the other two commissions. This was due to the fact that such issues as the classification of teacher-training institutions and the problem of college athletics were before this commission. The commission voted to classify as four-year institutions a limited number of the teachers' colleges. The commission also voted to discontinue at an early date the present practice of publishing an unclassified list of teacher-training institutions. This action means that in the near future the normal schools and teachers' colleges will be classified by

the North Central Association either as four-year colleges or as junior colleges.

A series of detailed recommendations regarding athletics were adopted by the Commission on Institutions of Higher Education. Faculty control and official supervision of athletic accounts were favored.

One of the forward-looking actions of the Commission on Institutions of Higher Education was the adoption of a plan for the more intensive study of a limited number of higher institutions with a view to finding a more scientific basis for the framing of standards for approval. Members of the commission frankly recognized the inadequacy of the present standards as measures of the real worth of colleges, and some predicted that an entirely new set of standards might be the outcome of a more intensive study of the factors that make a college an institution of high grade.

The Commission on Institutions of Higher Education also considered important committee reports on the cost of instruction, evening and extension education, faculty scholarship, graduate degrees, the professional training of college teachers, and the teaching load in science.

The Commission on Institutions of Higher Education elected the following officers for the ensuing year: chairman, President H. M. Gage, Coe College; vice-chairman, Dean C. S. Boucher, University of Chicago; secretary, President George F. Zook, Municipal University of Akron.

The Commission on Unit Courses and Curricula continued its work of the past two years in the field of defining qualitative and quantitative standards for secondary-school units. Numerous committee reports were presented to the commission. Many speakers expressed enthusiastic approval of the various reports dealing with the qualitative determination of units as published in the *North Central Association Quarterly*. Dean Willis L. Uhl, of the University of Wisconsin, and Professors H. H. Ryan and Raleigh Schorling, of the University of Michigan, appeared before the commission and spoke on the quantitative determination of units, the next step in the work. The speakers and those who participated in the later discussion agreed that this next step is a very difficult one, requiring

much detailed experimentation and careful study of classroom procedure and outcomes.

The officers elected by the Commission on Unit Courses and Curricula for the ensuing year are: chairman, Superintendent L. W. Smith, Joliet, Illinois; secretary, Assistant Superintendent Thomas M. Deam, Joliet, Illinois.

The Commission on Secondary Schools transacted the usual amount of business in the examination of reports from schools seeking recognition. Professor C. C. Brown, of the University of Colorado, secretary of the commission, presented a statistical analysis of the reports from 2,092 secondary schools on the approved list of the association. His report showed that 78 per cent of these schools are organized as four-year high schools and that the average number of pupils enrolled is 419. Among his other findings are the following. (1) Approximately one-third of the approved high schools have a school year longer than thirty-six weeks. (2) Twenty-five per cent of the schools have recitation periods longer than forty-five minutes. (3) The average maximum salary for high-school teachers is increasing, but the average minimum salary is decreasing. (4) The annual turnover in the teaching force in the high schools is 22 per cent. (5) The number of pupils graduated from the high schools is 18.1 per cent of the enrolment, which is a higher percentage than formerly. (6) There is a slight tendency to increase the size of class sections as well as a slight tendency to increase the teaching load. One hundred and fifty-five new high schools applied for recognition, of which 109 were approved. Twenty-eight high schools on the approved list during the past year were dropped for various reasons. The new list of high schools contains the names of 2,173 schools.

There were no far-reaching changes made in the standards for secondary schools. The Commission on Secondary Schools, however, voted to reduce the number of academic teachers that a school must employ in order to be eligible for approval. The new standard provides that there must be five full-time teachers in a four-year high school, at least four of whom must be engaged in teaching academic subjects. The commission also passed legislation designed to cause schools to assign teachers to work in their major and minor fields of specialization in college.

The Commission on Secondary Schools sponsored three principal studies during the past year. One, relating to the high-school library, was directed by a committee headed by Assistant Superintendent E. L. Miller, of Detroit. The report of the committee showed a marked difference in the schools in per capita expenditures for libraries and indicated a need for the enforcement of more rigid requirements regarding the library facilities that should be provided in an approved high school.

A report was presented by Principal G. W. Willett, of La Grange, Illinois, relative to the findings of the committee on the placement of teachers by private and public agencies. The report indicated clearly that one of the serious weaknesses in our program of teacher-training is to be found in the gross inefficiency with which teachers are placed in positions and advanced to new positions. The committee recommended a number of changes that should be made in the organization and administration of placement agencies, especially those maintained by colleges and universities.

The problem of homogeneous grouping in the junior high school was the subject of the report of the committee on junior high schools under the chairmanship of Superintendent T. W. Gosling, of Madison, Wisconsin. The report showed that the difficulties of homogeneous grouping and the objections to it constitute a very serious problem. The committee said, "It is evident that many of the problems relating to the junior high school organization and to junior high school methods of teaching are still very far from solved. There is a great need of well-directed scientific study, and there is a call for vigorous leadership if the promises that were made in the years when the junior high schools were still in their infancy are to be fulfilled."

The Commission on Secondary Schools elected the following officers for the ensuing year: chairman, Professor F. C. Landsittel, Ohio State University; secretary, Professor C. C. Brown, University of Colorado.

President W. W. Boyd, of the Western College for Women, Oxford, Ohio, president of the association, delivered the presidential address at the evening meeting on March 15. In his address Dr. Boyd emphasized the desirability of more attention in college education to liberal culture and spiritual influences.

The officers of the association elected for the ensuing year are as follows: president, W. I. Early, principal of the Washington High School, Sioux Falls, South Dakota; first vice-president, Dean W. E. Smyser, Ohio Wesleyan University; second vice-president, Professor L. W. Webb, Northwestern University; secretary, Professor J. B. Edmonson, University of Michigan; treasurer, E. H. K. McComb, principal of the Emmerich Manual Training High School, Indianapolis, Indiana.

The next meeting of the association and its commissions will be held in Chicago March 12–15, 1929, at a hotel to be selected by the Executive Committee.

J. B. EDMONSON, *Secretary*

A ROUMANIAN CONFERENCE ON SECONDARY EDUCATION

Secondary-school administrators and teachers in the United States are invited to attend the meetings of the International Congress of Professors of Secondary Schools to be held in Bucharest, Roumania, July 19–24, 1928. This invitation has been transmitted by the Roumanian committee of the International Congress through its government and Minister Cretziano in Washington to the United States Department of State. The Bureau of Education of the United States has been designated to extend the invitation to school authorities in the United States.

The following facilities and inducements are offered by the Roumanian government: (1) free visa of passports; (2) a 50 per cent reduction on Roumanian railroads from the frontier to Bucharest and return; also separate cars for larger groups traveling together; (3) free lodging in the best hotels in Bucharest; (4) two official banquets offered by the local organizing committee; (5) various exhibitions, receptions, etc., which will be organized in honor of the congress; (6) a series of didactical and cultural publications; (7) a six-day excursion in the most picturesque parts of the country in order to visit the various Roumanian cultural institutions; this excursion will be entirely at the expense of the Ministry of Public Instruction.

It is requested that those who desire to attend the International Congress immediately notify the Bureau of Education, Washington, D.C., in order that their names may be transmitted to the Roumanian officials.

PUPILS IN ENGLISH CLASSES BECOME "DEPARTMENT STROLLERS"

Visits of "department strollers," pupils in English classes who have special dramatic ability, assist in visualizing English work in the Boys' High School, Brooklyn, New York. The boys pass from one English section to another, giving short performances of scenes selected from great masterpieces which they have previously studied and rehearsed. Other methods of visualization in English work are used, including talks in "picture form" by pupils on assigned topics in connection with a stereopticon operated by a fellow-pupil.

WOMEN IN EDUCATIONAL ADMINISTRATION

The Research Division of the National Education Association was recently asked by an organization of women to ascertain the extent to which women hold administrative positions in educational systems and institutions in the United States. In reply to this request, the Research Division has compiled certain tables which show

TABLE I

COUNTY SUPERINTENDENTS OF SCHOOLS

State	Number of Men	Number of Women	Total	State	Number of Men	Number of Women	Total
Alabama	66	1	67	New Hampshire	53	0	53
Alaska	6	0	6	New Jersey	21	0	21
Arizona	1	13	14	New Mexico	12	19	31
Arkansas	71	4	75	New York	155	45	220
California	36	22	58	North Carolina	99	1	100
Colorado	10	53	63	North Dakota	17	36	53
Connecticut	29	1	30	Ohio	87	1	88
Florida	63	3	66	Oklahoma	49	28	77
Georgia	148	13	161	Oregon	20	16	36
Idaho	10	34	44	Pennsylvania	66	0	66
Illinois	86	16	102	Philippine Islands	50	0	50
Indiana	91	1	92	Porto Rico	43	2	45
Iowa	42	58	100	Rhode Island	9	1	10
Kansas	34	72	106	South Carolina	43	3	46
Kentucky	98	22	120	South Dakota	20	48	68
Louisiana	64	0	64	Tennessee	89	6	95
Maine	119	12	131	Texas	216	37	253
Maryland	23	0	23	Utah	32	1	33
Massachusetts	75	0	75	Vermont	59	27	86
Michigan	59	24	83	Virginia	88	0	88
Minnesota	40	47	87	Washington	22	17	39
Mississippi	75	7	82	West Virginia	45	10	55
Missouri	83	29	112	Wisconsin	39	33	72
Montana	4	52	56	Wyoming	2	21	23
Nebraska	31	62	93				
Nevada	3	2	5	Total	2,703	900	3,603

TABLE II

CITY SUPERINTENDENTS OF SCHOOLS

State	Number of Men	Number of Women	Total	State	Number of Men	Number of Women	Total
Alabama	38	0	38	Nebraska	31	0	31
Arizona	16	0	16	Nevada	3	0	3
Arkansas	39	2	41	New Hampshire	27	0	27
California	99	5	104	New Jersey	120	2	122
Colorado	27	0	27	New Mexico	10	2	12
Connecticut	72	3	75	New York	166	3	169
Delaware	4	0	4	North Carolina	55	0	55
District of Columbia	1	0	1	North Dakota	12	0	12
Florida	28	1	29	Ohio	145	0	145
Georgia	56	1	57	Oklahoma	62	0	62
Idaho	20	0	20	Oregon	23	0	23
Illinois	171	4	175	Pennsylvania	303	7	310
Indiana	92	1	93	Rhode Island	26	1	27
Iowa	79	2	81	South Carolina	32	0	32
Kansas	60	1	61	South Dakota	14	0	14
Kentucky	48	0	48	Tennessee	45	2	47
Louisiana	38	0	38	Texas	118	2	120
Maine	50	2	52	Utah	15	0	15
Maryland	16	0	16	Vermont	26	2	28
Massachusetts	159	0	159	Virginia	39	0	39
Michigan	93	0	93	Washington	35	0	35
Minnesota	59	0	59	West Virginia	34	0	34
Mississippi	32	0	32	Wisconsin	82	1	83
Missouri	64	0	64	Wyoming	8	0	8
Montana	16	1	17	Total	2,808	45	2,853

TABLE III

VARIOUS ADMINISTRATIVE POSITIONS

	Number of Men	Number of Women	Total
University and college presidents	597	55	652
Heads of departments of education	501	84	585
Directors of summer schools	607	42	649
Presidents of junior colleges	131	19	150
Presidents or heads of teachers' colleges	86	2	88
Principals of state normal schools	115	1	116
Principals of city normal schools	14	12	26
Members of the National Association of Secondary School Principals	1,956	169	2,125
Members of the Department of Elementary School Principals	1,072	1,866	2,938

the number of educational administrative positions held by men and women in the various states.

Two of these tables are reproduced in Tables I and II. The facts presented in the other tables are summarized in Table III.

AN EASTERN JUNIOR COLLEGE

Appointments to the administrative organization and the faculty of Seth Low Junior College, which will be opened on September 27, 1928, as a Brooklyn part of Columbia University, have been announced by the university. The college will be housed in the new Brooklyn Law School building at 373 Pearl Street, but until September 1 offices will be at 305 Washington Street.

The purpose of the establishment of the junior college is to serve the educational needs of Brooklyn more adequately, according to the announcement by Professor James Chidester Egbert, director of university extension at Columbia, who has been named chairman of the administrative board of the college. The academic year will start with an enrolment of about seven hundred, approximately the number of students hitherto cared for by extension courses in Brooklyn.

The selective process will govern admissions from the beginning, it was announced. The requirements will be substantially those of Columbia University and will include the Thorndike intelligence examination.

LIBRARIES IN SECONDARY SCHOOLS

Steps have been taken by the Association of Colleges and Secondary Schools of the Southern States to improve library facilities in secondary schools in the South. Standards for libraries in accredited secondary schools have been adopted, and specific professional requirements have been set up for school librarians.

ETCHING AS AN ART COURSE

Etching has been added to the Senior course in art in the Lincoln High School, Cleveland, Ohio. When this work was introduced two years ago, pupils were without adequate facilities for the mechanical processes, but equipment supplied recently by the board of education has enabled the class to do some very effective work.

HIGH-SCHOOL STUDENT COUNCILS

N. ROBERT RINGDAHL
Corcoran School, Minneapolis, Minnesota

In May, 1927, with the assistance of the United States Bureau of Education, the writer sent out a questionnaire containing twenty-four questions dealing with student councils in high schools. The questionnaire was sent to 250 representative high schools in all the states and in the District of Columbia. Replies were received from 179 schools.

The term "student councils" as here used presupposes a definite organization existing primarily to share in school administration. The council is not thought of as a court although it may have such a function. The term also excludes student government in any full sense. It includes student participation in government, a tendency which seems to be rapidly increasing in both senior and junior high schools and is even appearing in elementary schools with apparently wholesome and satisfactory results.

Many of the schools replying gave their reasons for having councils. Several schools gave their reasons for not having councils. Quotations from the replies appear at the end of this article.

The schools reporting councils represent all parts of the United States. Nine are in California, seven in Wisconsin, six in New York, and five each in Ohio, Massachusetts, Michigan, and Washington. Vermont, Delaware, Utah, Kentucky, and other states are represented by one school each. It would seem, therefore, that a substantially true cross-section of conditions as they exist is portrayed by the results.

It would appear that the council is a relatively new form of student organization and that it is functioning in a very helpful way both in the matter of actual achievement for the schools and in the training given those who participate.

Question 1. Has your school a student council? One hundred and

seventy-nine schools replied. Of these, 123, or 68.7 per cent, said, "Yes"; 56 said, "No."

Question 2. For how many years has your council been in existence? Four councils had just been started. Nine had existed for one year only. Seventeen had existed for two years, five for fifteen years, four for twenty years, and one for twenty-three years. The median was 5.25 years.

Question 3. How many members in your council? The replies to this question show marked variation. Councils range in size from

TABLE I

ENROLMENT OF VARIOUS HIGH SCHOOLS AND NUMBER OF MEMBERS OF STUDENT COUNCIL

School	Number of Members of Student Council	Enrolment
East High School, Salt Lake City, Utah	7	1,750
High School, Oshkosh, Wisconsin	44	1,325
Central High School, Kansas City, Kansas	80	1,700
Phillips High School, Birmingham, Alabama	55	2,000
Roosevelt High School, St. Louis, Missouri	65	2,500
Central High School, Philadelphia, Pennsylvania	27	3,100
Erasmus Hall High School, Brooklyn, New York	11	5,000
High School, Salem, Oregon	11	1,204
High School, Columbia, South Carolina	7	1,300
High School, Fitchburg, Massachusetts	40	963
Manual Arts High School, Los Angeles, California	65	3,200
Schenley High School, Pittsburgh, Pennsylvania	134	2,800
DeWitt Clinton High School, New York City	13	6,100
High School, Paterson, New Jersey	132	2,045

5 to 135. There seems to be no direct relation between the enrolment in the high school and the number of pupils in the student council. Nineteen schools had ten or less pupils in their councils. Seventeen schools had fifty or more. Four schools had more than one hundred. The median was 22.8.

Question 4. What is your high-school enrolment? The enrolments reported show that the schools replying are large metropolitan high schools. Thirty-three schools enrol between 500 and 1,000 pupils; thirty-three, between 1,000 and 1,500; twenty-four, between 1,500 and 2,000; ten, between 2,000 and 2,500; four, between 2,500 and 3,000; two, between 3,000 and 3,500; two, 4,000; one, 4,500; three, between 4,500 and 5,000; and one, 6,100. A few typical cases are shown in Table I.

Question 5. Basis of selection of council members? There seems to be no outstanding or established basis of selection. The following is a summary of the replies: by classes, 38; by home rooms, 31; at large, 12; presidents of other organizations, 11; home rooms and classes combined, 6; organizations and classes, 6; other combinations, 6. Usually the Seniors have the largest representation where selection is by classes. In several cases the officers of the council are elected at large although the members are not. In some cases the principal appoints a fixed number of members. In one instance the home-room chairmen elect the council. Captains of athletic teams are ex-officio members in two instances. In several cases faculty members are members of the council with a regular vote.

Question 6. Method of selection? For the most part, the student body elects the council members, this being true in ninety-three cases. In five cases the council is made up of pupils who are officers of other organizations and are therefore ex-officio council members. Pupils and faculty jointly elect in five cases. Three schools report a nominating primary; four nominate by petition; three, through student committees; and two, by faculty. An unusual method is reported by the high school in Rutland, Vermont, the outgoing members electing the council. One school in the state of Washington uses regular voting machines both in the primary and in the general election. In one school of two thousand pupils nominations are by petition, which must be signed by 8 per cent of the pupils. In one school of 4,000 pupils twenty-five signatures may nominate. In the Ballard High School, Seattle, two advisers and four ex-officio members name twenty nominees, and the pupils elect from these.

Question 7. Frequency of meetings? One school has a council meeting once a day, the council serving one day a week in matters of administration and four days as a court. The council in the high school at Ottumwa, Iowa, also meets daily. Two councils (Portsmouth, Virginia, and Butte, Montana) meet twice a week. Forty-nine councils meet once a week; thirty-five, once in two weeks; and twenty-one, once a month. Five councils meet on call only.

Question 8. Time of meeting? One of the problems which face the council is to find a meeting time that does not interfere seriously with regular class work. Councils solve this problem in different

ways. Sixty-seven councils meet during school time; thirty-two, after school; six, before school; and one, in the evening. The councils which meet during school time reported as follows: during class time, 35; activities period, 13; advisory period, 11; recess, 2; assembly, 2; lunch period, 1; when convenient, 3. Two councils alternate between class time and after school.

Question 9. Powers granted? Very few schools prescribe definite powers. In effect, powers are advisory only although they cover a wide range. Many schools failed to reply to this question. A summary of the answers is as follows: to regulate extra-curriculum activities, 26; to control traffic, corridors, lunchroom, 17; to make rules as to conduct, 7; to control study halls, 5; to control discipline, 5; to control finances, 5; to pass necessary ordinances, 4; to control social affairs, 4; to give athletic and other awards, 3; to budget athletic and other activities, 2; to plan and conduct assemblies, 2; to care for building and property, 2; to give merits and demerits, 1; to reduce theft and cheating, 1. The high school in Brookline, Massachusetts, reported as follows: "To recommend improvements in school attendance, in conduct of pupil activities, in courses of study, and to reprimand misconduct." The Roosevelt High School, St. Louis, Missouri, reported as follows: "To plan and conduct auditorium sessions, regulate traffic, guard personal property, help care for the building, foster clubs and athletics."

Question 10. Powers specifically withheld? No answer, 70; discipline, 28; none withheld, 13; finances, 3; all except those granted, 3; classroom control when in charge of a teacher, 3; must agree with rules of board, 2; it is not "student government," 1. The outstanding observation is that a large number of schools do not give the council any control over discipline. The tendency seems to be away from endangering the success of the council with disciplinary problems. This would appear to be a commendable tendency. The real value of the council lies in service to the school in other and more constructive ways.

Question 11. Has the principal veto power? Three schools answered, "No"; one did not answer; all others said, "Yes." Where "No" was the answer, the principal himself is a member of the council.

Question 12. Does the constitution provide for a veto? "Yes," 79; "No," 26. Eight schools reported no constitutions. In one school the acts of the council must first be approved by the principal.

Question 13. Number of advisers? The replies to this question show great diversity in practice. There is one adviser in forty-three schools, two in thirty schools, three in seven schools, four in seven schools, five in six schools, six in five schools, seven in three schools, eight in five schools, and nine in one school. Some unusual arrangements occur. In the high schools in Miami, Florida, and Peoria, Illinois, each home-room teacher is an adviser. In the DeWitt Clinton High School, New York City, all the faculty members become advisers through special assignments. In this, the largest of all the high schools, thirteen pupils and seven teachers constitute the council.

Question 14. How are advisers chosen? For the most part, the principal appoints the advisers. Some schools use the word "sponsor"; others, the word "counselor." The principal appoints the advisers in sixty-eight of the schools. Other methods are: elected by pupils, 10; elected by faculty, 8; elected by board of control, 2; elected by board of education, 1. In thirteen cases the principal is the only adviser. In eight cases the principal is one of several faculty advisers. Assistant principals and deans are usually included as advisers. In one case the council approves the appointment of the advisers. Some advisers vote on measures as regular members of the council. In the Schenley High School, Pittsburgh, Pennsylvania, the principal appoints one adviser; the council elects two; and these three advisers choose two others.

Question 15. What are some of the definite achievements of your council? The replies cover a wide range and cannot well be tabulated, but to show the extent of student-council activity a rather complete enumeration is given. Improved traffic and order in corridors, 20; published handbook, 12; established point system for activities, 9; conducted assemblies, 8; regulated lunchroom, 8; improved attendance, 6; managed ticket sales, 6; conducted "clean-up" campaign, 6; adopted standard emblem, 5; improved order in auditorium, 4; raised scholarship, 4; handled school finances, 4; reduced thefts, 4; improved building and grounds, 4. The following appeared

from one to three times: conducted lyceum course; managed bookstore; organized school bank; published annual; instituted "Better ——— Week"; supervised social functions; conducted information desk; started National Honor Society; inaugurated system of marshals; instituted "Self-Control Fridays"; gave athletic and other awards; reduced cheating; bought grand piano, flags, band instruments, stage equipment, motion-picture machine; built tennis courts; sponsored service club; handled reunion banquet and homecoming celebration; sponsored dances; awarded two university scholarships a semester; provided "student-body" office; eliminated "Rough Neck Day"; developed a school creed; formulated a code of conduct; improved conduct on street cars; inaugurated courtesy squad; took responsibility for partial orientation of Freshmen; chartered clubs; sold school publications; handled elections; formed safety squad; cared for all benevolences; eliminated class clashes in spring; landscaped grounds; gave talks to Freshmen; aided in honesty campaign; directed ushers; adopted standard ring; forbade smoking in building or on campus; handled publicity campaign for activities; reduced abuse of school property; formed budget for school activities, including athletics. One high-school council (Altoona, Pennsylvania) selected officers for the school paper, chose the editor-in-chief of the annual, and selected the captains of all athletic teams.

Question 16. Does the council raise and spend funds? "Yes," 68; "No," 46.

Question 17. What are funds used for? General student activities, 42; benevolences, 6; operating expenses only, 5. Special uses: badges for marshals, fees for honor society, delegates to convention, award for school song, purchase of inspirational bulletin, the printing of ballots, stationery and postage, maintenance of student room.

Question 18. Attitude of pupils toward council? About 95 per cent of the replies were favorable; the rest were favorable but qualified. A summary of the answers is as follows: good, 14; favorable, 10; co-operative, 10; excellent, 9; respect it, 7; very good, 5; sympathetic, a high honor, eager to serve, very fine, 4 each. The following replies were made from one to three times each: very favorable, appreciative, splendid, highly co-operative, very friendly, loyal, interesting, cordial, entirely satisfactory, responsive, the best.

The qualified replies were as follows: majority very friendly, a few hostile; interested but impatient if it does little; some favor it, many are indifferent, none oppose; not taken very seriously but improving; respected more each year; some slightly suspicious; negative; not very co-operative.

Question 19. Does the council have any authority in discipline? "Yes," 49; "No," 61. A substantial majority of the schools, it will be seen, do not give the council any disciplinary power. This is the rock on which student government has often been wrecked. It is better to avoid it. The field for the council is ample without it except as to enforcing its own decisions. Disciplinary problems should probably not be brought before the council. Problems arising as a direct result of the existence of the council may well come before it or before some group created or authorized by the council to take charge of such cases. Other disciplinary cases, at least the major ones, should go directly to the proper faculty members or to the principal.

Question 20. What punishments may the council mete out? Detention, 12; suspension, 5; reprimand, 3. The following special and in some cases quite original punishments were listed once each: demerits; denial of awards; lower marks; demote from honor study hall; memorization; remove from office; assign extra library reading; exclude from assembly; commit to "Pest Rooms"; add project to required work; suspend from social activities; require pupil to bring parent. These punishments represent marked resourcefulness. All seem legitimate and ought to be helpful and effective. Some also seem flavored with a saving sense of humor.

Question 21. What are the chief problems and difficulties which your council has met? Lack of student co-operation, 7; faculty indifference or opposition, 7; poor choice of members, 5; finding definite things to do not already assigned, 5; getting pupils to assume responsibility, 4; lack of enthusiasm for it, 4; keeping each member active, 3; lack of time, 3; finding suitable punishment for minor offenses, 2; "finding itself," 2. The following problems were reported once each: creating student morale; keeping such a general organization functioning; trying to do too much; members immature; pupils think too much of self-interest; sometimes faithless officers; too

many other student activities; giving competent pupils too much to do; council engaged in horseplay, but this is now disappearing; too few representatives for size of school (7 for 1,300); too much politics; combating control by outside social influences; proper basis of representation.

Question 22. Have you had a council which was dissolved? "Yes," 7; others, "No" or no answer.

Question 23. Reasons for dissolution? All the seven schools which reported councils dissolved now have councils. The reasons given for dissolution are as follows: to get more elaborate organization; defection of officers in financial matters; did not work well; too large and cumbersome; had control over discipline but would not act on it (now has no control over discipline); lacked organization and objective, was faculty dominated; was worthless, had too many "powers," principal out of harmony.

Question 24. Comment in your own words on the desirability of councils, their chief field for usefulness, and the chief dangers to be guarded against. The following replies were received from schools having student councils.

1. I would not attempt to operate a high school without one. It must be advised carefully and closely.
2. It is most desirable. Avoid faculty domination.
3. Fine if not given too much power. Should omit discipline.
4. Good, but pupils must not feel that they are absolute in power.
5. Avoid discipline for council.
6. A fine outlet. Cannot have disciplining power with safety.
7. Necessary to have group that can speak for all pupils. Don't give too much power. Good even though activities are perfunctory.
8. Very desirable. Greatest good is as propaganda spreaders and as aids in promoting activities. Should not be excuse for principal to "pass the buck."
9. Very desirable as we have it but dangerous if given too much power.
10. Trains in leadership and responsibility. Great danger lies in trying to establish entire student government.
11. Aids in interpreting and in molding school opinion. Danger is that pupils may feel that they are the source of authority.
12. No danger. The student council is the most powerful organization in our school. (Flint, Michigan)
13. When under control, it is fine. The chief danger is to give it the power of discipline.

14. I wouldn't be without one. Through it, principal and student body meet officially.

15. I consider the experience gained by the pupils in the council probably the most valuable of their high-school careers. It holds over into after-life. (DeWitt Clinton High School, New York City)

16. Reports to home rooms influence whole school. Plan programs carefully. Have worth-while discussion or time will be wasted.

17. I cannot conceive of a successful high school without one. Danger lies in either lack of, or too much, control by principal and faculty.

18. This council has rendered signal service to our school.

19. A necessity in a democratic school today. Great aid to principal in keeping in touch with pupils.

20. I can't see how any modern high school can do without a council. It gives a principal pupil pulse and suggestions for improvement.

21. No high school should be without one. Students should learn to lead, to choose leaders, and to follow intelligently. No other device will do this as well.

22. Co-operative student government is something I would not be without. Have never been without it in my last twelve years as principal of high schools. (Idaho Falls, Idaho)

23. A well-organized student council makes an excellent laboratory for teaching civics. Pupils should recognize that they are subject to the decisions of the faculty.

The following replies were received from schools that do not have student councils.

1. Our many attempts to make the council go have failed. Our efforts in small student organizations have been more successful.

2. Some form was in existence before I came here. I never revived it. I do not believe in it because it has no legal authority in cases of discipline and because pupils will not reveal any cases of misbehavior for disciplinary purposes.

3. For several years we have tried to establish some formal plan of student government. Each time the student body voted against the plan. If we ever adopt a plan, it will come by evolution.

4. It is my opinion that councils are wasteful of the time and energy of the adviser and of the pupil. Surely there are educational outcomes achieved, but these might be achieved in a more efficient way. (Scranton, Pennsylvania)

5. If pupils prepare assignments and do all their work, they will need all their time. Have had student government on three plans and found machinery took more time of faculty and pupils than it was worth. (Dallas, Texas)

6. I think student councils undesirable. The effort to shift responsibility for discipline from the teacher to the pupil must always prove futile in the end.

7. In thirty-one years of experience, study, and observation, I have not felt that there is a real need for such an organization.

A COMPARATIVE STUDY OF THE RESULTS OBTAINED BY THE METHOD OF MASTERY TECHNIQUE AND THE METHOD OF DAILY RECITATION AND ASSIGNMENT

M. N. FUNK
Latrobe High School, Latrobe, Pennsylvania

There is abundant evidence that teaching procedure is coming to be regarded as of paramount importance. Numerous experiments in teaching procedure have been carried on, and many new types have been proposed. Recently such terms as the following have become prominent in educational literature: the recitation plan, supervised study, directed study, project method, problem method, general-discussion method, lecture method, unit-plan method, and mastery-technique method.

The development of new plans of instruction has caused much controversy concerning their relative merits. The advocates of the newer methods have arraigned and condemned the older systems. The supporters of the traditional plans have been equally ardent in criticizing the new techniques and in protecting the older methods.

One of the methods most severely criticized and yet probably most widely used is the day-by-day recitation plan. This type of class procedure varies in its use in the hands of individual instructors, but the essentials are the same, namely, the assignment of a definite task for the pupils to perform, the preparation of the assignment by the pupils outside the class period, and the recitation of the assignment by the pupils during the following class period.

The recitation plan has been condemned by a number of critics. Some would abandon it altogether, while others would attempt to remedy its defects. Possibly the most thorough analysis and the most severe criticism of the daily-recitation method have been made by Henry C. Morrison,[1] of the University of Chicago. He contends

[1] Henry C. Morrison, *The Practice of Teaching in the Secondary School*, pp. 35–65. Chicago: University of Chicago Press, 1926.

that the daily assignment, lesson-learning, and the reciting of lessons are conducive to "half-learning," to the "get-by" attitude, and to perverted pupil attitudes of various kinds. Professor Morrison proposes a new system known as the "mastery-technique" method.

The mastery-technique method consists of five steps. The first step is exploration, the purposes being the orientation of the learners, the establishment of apperceptive sequence, and economy of time. The second step is presentation, the instructor introducing the pupils to the new unit of learning. The third step is assimilation, the pupils becoming thoroughly familiar with the materials presented for the mastery of the unit. In the fourth step the pupils organize the material they have studied. The fifth and final step is the recitation, the pupils reporting to the class the results of their study.

This method has some unique features. The most startling innovation is the complete abolition of the daily assignment and recitation of lessons. The classroom is the laboratory and becomes a real workshop. The class period formerly utilized for formal recitations becomes a period in which the pupils may read or perform any other exercise leading to the mastery of the unit. The instructor applies the mastery formula: "Pre-test, teach, test the result, adapt procedure, teach and test again to the point of actual learning."[1] Pupils study the unit until the objectives have been attained. There is to be no half-learning. An additional feature of the plan is the special period devoted to organization.

The writer became acquainted with this newer technique while attending the University of Chicago in 1922. With the consent of the superintendent and the principal of the school in which he was teaching, the plan was introduced into two of his classes. From that time its use was extended in the school until all social-science classes had adopted the plan.

In the school year 1926–27 the writer had four classes in problems of American democracy. It was decided to teach two sections by the day-by-day recitation plan and two by the mastery-technique method. Each class was to be tested to discover the results of the method of procedure. The questions to be answered by this experimental comparison were as follows: Do pupils taught by the mas-

[1] *Ibid.*, p. 79.

tery-technique method make better scores in tests of subject matter than do pupils of equal ability taught by the day-by-day recitation method? Do pupils acquire the ability to organize subject matter better if they are taught by the mastery-technique method? Which plan is conducive to greater attention? Do pupils taught by the mastery-technique method apply their information to concrete problems more accurately than do those taught by the day-by-day recitation method? Do pupils taught by either method excel in any particular type of objective test? Under which plan do pupils make greater gains in the ability to read? Under which plan do pupils read more widely? Which method do pupils prefer? Which plan gives greater encouragement for voluntary reading? Do the results in any way indicate the superiority of one method over the other?

The study began September 7, 1926, and was concluded June 3, 1927. The results included 180 class periods for each class, each period being forty-five minutes in length. The amount of time spent by each pupil outside of class could not be estimated.

The school in which the experiment was made is the Latrobe High School, Latrobe, Pennsylvania. Latrobe is a borough of approximately 10,000 persons. The school population has the general characteristics of localities in the Pittsburgh district. The number of pupils enrolled in the high school in 1926–27 was 657, and the teaching staff consisted of one principal and thirty-two instructors.

The experiment was conducted in four classes devoted to problems of American democracy, a course required of all pupils in the twelfth grade. The social-science course of the high school consisted of vocational civics, early Europe, modern Europe, American history, and problems of American democracy and was required of all pupils. Thus, all the pupils had the same background of subject matter.

The classroom had been fairly well equipped for the use of the mastery-technique method. There was a classroom library of five hundred volumes supplemented by a large number of pamphlets and bulletins and a school library of four thousand volumes. Other equipment included a bulletin board, files for reading cards, a four-drawer filing cabinet, and a table. Books in the classroom library were duplicated to the extent of from three to twenty-five copies.

Other books needed for short periods of time were withdrawn from the school library and returned at the close of each unit.

One of the most difficult tasks was to match the pupils and the classes. The factors considered were the number of pupils in each section, the time of the class period, intelligence quotients, chronological ages, reading ages, and the results of an initial trial unit.

There were twenty-three pupils in two classes, twenty-two in one class, and twenty-one in one class. The primary factor considered in matching was the intelligence quotient. Pupils were matched in pairs, and schedules were changed until the intelligence quotients of the pupils in the different sections were similar. Both the Otis

TABLE I

MEAN SCORES OF THE PUPILS IN CLASSES A, B, C, AND D AS THEY WERE MATCHED AT THE BEGINNING OF THE STUDY

CLASS	CHRONOLOGICAL AGE IN YEARS AND MONTHS	I.Q.		READING TEST		TESTS ON INITIAL UNIT			
		Terman Test	Otis Test	Score	Age	True-false Test	Matching Test	Completion-Sentence Test	All Tests
A.....	17–5	100.1	108.8	22.3	15.8	23.8	10.3	25.5	59.5
B*.....	17–5	100.3	109.0	22.1	15.3	23.7	11.3	26.7	62.3
C*.....	17–5	99.7	110.3	22.4	15.6	24.4	11.7	24.0	60.0
D.....	18–4	99.6	108.0	21.3	15.2	25.3	11.0	24.0	60.0

* Classes B and C were to be taught by the mastery-technique method.

Self-Administering Test of Mental Ability and the Terman Group Test of Mental Ability were used. The correlation between the results of these tests was found to be .775 (product-moment method) with a probable error of .029.

The reading ages of the pupils were then taken into consideration. The test used was the Chapman Unspeeded Reading-Comprehension Test. Finally, the introduction to the course was taught to the four classes by the same method—a combination of lectures, general discussions, and questions and answers. Tests were then given on the introductory material to find out how well the matching had been accomplished. Table I shows the results of the matching.

When the pupils and classes were properly matched, the classes were started on Unit I, two being taught by the mastery-technique method and two by the day-by-day recitation method.

At the close of the study of each unit, five types of tests were given to check the results: true-false, multiple-response, completion-sentence, application, and organization. The tests were long and comprehensive. All were scored objectively.

There were nine units in the course: Introductory Unit, "Industrial Organization Prior to the Nineteenth Century and the Industrial Revolution"; Unit I, "Bases of the Capitalistic System"; Unit II, "Production and Its Problems"; Unit III, "Exchange and Its Problems"; Unit IV, "Distribution and Its Problems"; Unit V, "Programs of Reform"; Unit VI, "Taxation"; Unit VII, "Crime"; and Unit VIII, "Political Parties."

TABLE II

MEAN SCORES OF THE PUPILS IN CLASSES A, B, C, AND D IN FIVE TESTS ON UNIT VIII

CLASS	INITIAL TRUE-FALSE TEST	FINAL TESTS					
		True-false Test	Multiple-Response Test	Completion-Sentence Test	Application Test	Organization Test	All Tests
A	34.5	45.2	14.4	54.9	30.9	61.5	206.9
B*	36.1	46.3	14.6	57.5	34.8	59.6	212.8
C*	35.5	45.3	13.8	56.0	31.7	62.3	209.2
D	35.9	46.5	15.3	58.8	32.8	60.6	213.9

* Classes B and C were taught by the mastery-technique method.

The results of the tests on all these units were remarkably similar. The percentage of difference was usually insignificant. It is impossible to present the scores in the tests on all eight units in this article, but the partial results of one unit are shown in Table II.

When the results of the tests were compared, they were found to be quite inconsistent. No class showed a constant superiority over any other in any type of test. Differences in scores must be attributed to factors other than the methods of teaching.

The second factor compared was the amount of reading done by the pupils. Table III shows that the classes taught by the mastery-technique method were superior in this respect.

The third comparison dealt with increases in the reading scores and in the reading ages. The Chapman Unspeeded Reading-Com-

prehension Test, which had been given at the beginning of the school year, was given the second time approximately nine months later. The results (Table IV) do not give either method a claim to superiority in improving reading ability.

A fourth factor compared was the number of pupils who had done various kinds of voluntary reading. The types of reading considered were magazines, books, and newspapers which were not on the required list. Thirty-two different magazines, forty different books, and thirteen different newspapers had been read voluntarily. The classes taught by the mastery-technique method showed a decided advantage both in the number of different types of reading and in the number of pupils reporting these forms of voluntary-reading material.

TABLE III

AMOUNT OF READING DONE BY THE PUPILS IN CLASSES A, B, C, AND D

Class	Mean Number of Pages Read	Median Number of Pages Read	Range in Number of Pages Read
A	1,478	1,644	1,325–3,652
B*	1,885	1,902	1,489–2,602
C*	1,910	1,866	1,430–2,289
D	1,481	1,495	1,080–1,755

* Classes B and C were taught by the mastery-technique method.

TABLE IV

MEAN READING SCORES AND MEAN READING AGES OF THE PUPILS IN CLASSES A, B, C, AND D AS MEASURED BY THE CHAPMAN UNSPEEDED READING-COMPREHENSION TEST

Class	September 9, 1926		May 27, 1927	
	Mean Reading Score	Mean Reading Age	Mean Reading Score	Mean Reading Age
A	22.3	15.8	25.8	16.1
B*	22.1	15.3	24.5	16.5
C*	22.4	15.6	25.1	16.7
D	21.3	15.2	24.4	16.5

* Classes B and C were taught by the mastery-technique method.

At the close of three consecutive school years the writer submitted a questionnaire to pupils in his classes asking them to give

their opinions of the relative value of the two methods of instruction. All pupils who answered had been taught by both methods in the eleventh and twelfth grades. The results indicate a decided preference for the mastery-technique method. For example, in the school year 1923–24, 75.0 per cent of the pupils preferred the mastery-technique method; in the school year 1924–25, 83.5 per cent of the pupils preferred it; and in the school year 1925–26, 71.1 per cent of the pupils preferred it.

Some of the statements made by the pupils are as follows:

In the mastery-technique plan there is more chance for using one's initiative, and you can plan the work for yourself.

I think it [mastery-technique method] is more valuable because it teaches you to be observant, and you can learn other people's opinions.

The day-by-day recitation is a lazy man's method.

I like the mastery-technique system better because I can understand the subject better. The older method seems to be just learning something to recite to forget the next day.

It [mastery-technique method] gives you a chance to read more on a subject.

It eliminates much home work, and, if study is put off until evening, the chances are that there will be something else to do.

I like the mastery technique because it eliminates the repetition of facts that are already known. It gives an opportunity for wider reading and more extensive reading without the bother of having to stop and tell it to someone who already knows it.

I made my choice for the mastery technique because I hate to sit and listen to stuff I know already. I prefer to study by myself.

Through the mastery-technique system I have learned how to take notes.

I prefer the day-by-day plan because I find it easier to prepare a certain amount of work day by day.

I prefer the day-by-day plan because in this plan one must be ready to meet the assignment of the next day.

We learn more by hearing others recite [day-by-day recitation method].

Discussion is more interesting than reading [day-by-day recitation method].

A careful analysis of all the results of the study shows the following conclusions to be justified.

1. Neither of the methods of classroom technique tends to pro-

duce better scores in true-false, multiple-response, completion-sentence, application, and organization tests.

2. Pupils can be taught to organize material as well by the day-by-day recitation method as by the mastery-technique method.

3. Pupils taught by the day-by-day recitation method can apply their information as well as can those taught by the mastery-technique method.

4. Pupils taught by the mastery-technique method read more extensively than do those taught by the day-by-day recitation method.

5. Pupils can be aided in the improvement of their reading as much by the day-by-day recitation method as by the mastery-technique method.

6. Pupils taught by the mastery-technique method read a greater number of types of reading material than do those taught by the day-by-day recitation method.

7. The majority of pupils prefer the mastery-technique method.

A MENTAL-EDUCATIONAL SURVEY OF IOWA JUNIOR COLLEGES[1]

GEORGE D. STODDARD
University of Iowa

There has been a great deal of discussion concerning the student talent attracted by the new small junior colleges of the Middle West type, but little tangible evidence has been brought to light. In September, 1927, an investigation was therefore undertaken in the state of Iowa with the following objectives: (1) to measure the mental and educational ability of beginning students in the junior colleges, (2) to compare these measurements with measurements of the same type obtained at the University of Iowa, and (3) to make such other comparisons as the norms of the tests used would permit.

The battery of tests selected comprised the University of Iowa Qualifying Examination of 1927. This consisted of four parts: (1) the Iowa Comprehension Test, a reliable reading test suitable for college Freshmen; (2) the Iowa Placement Examination, English Training, a test of English essentials widely used by colleges; (3) the Iowa Placement Examination, Mathematics Aptitude, a test found to add weight to a composite score designed to predict general academic success in college; (4) the Iowa High School Content Examination, a comprehensive achievement test covering the four main branches of high-school work (English, mathematics, science, and social studies).

Of the eighteen junior colleges in Iowa, sixteen co-operated in the survey, but scores on all tests were submitted by only eleven. The "composite" scores are based on the scores of the eleven junior colleges only, but individual test scores are reported for sixteen junior colleges. The testing was supervised by the superintendents of schools, and all scoring was done at the University of Iowa.

The results are presented in Tables I–V. In reading comprehension the junior-college Freshmen and the University of Iowa Fresh-

[1] The writer is indebted to F. H. Chandler, superintendent of schools, Sheldon, Iowa, for securing the state-wide co-operation required by this study.

TABLE I

RESULTS OF THE IOWA COMPREHENSION TEST, D-1

Junior College	Number of Students	Mean	Median	Lower Quartile	Upper Quartile	S.D.
1	59	25	25	21	30	6
2	22	22	21	18	26	6
3	52	23	23	19	27	5
4	37	21	22	17	24	5
5	53	23	24	17	29	8
6	30	22	22	18	27	6
7	36	23	24	18	29	7
8	30	22	22	17	25	6
9	19	24	24	17	30	7
10	18	24	24	21	28	5
11	22	27	28	22	32	7
12*	36	24	23	20	28	6
13*	15	23	23	19	30	7
Composite of eleven junior colleges	378	23	23	18	28	6
University of Iowa Freshmen	1,048	22	22	17	27	7

* Omitted certain tests; not included in the composite.

TABLE II

RESULTS OF THE IOWA PLACEMENT EXAMINATION, ENGLISH TRAINING, FORM A

Junior College	Number of Students	Mean	Median	Lower Quartile	Upper Quartile	S.D.
1	60	95	92	72	125	33
2	22	80	86	63	99	30
3	53	84	85	61	111	31
4	37	82	87	58	103	32
5	52	93	95	60	124	39
6	30	98	97	78	122	32
7	36	88	85	56	120	39
8	30	76	73	55	95	30
9	19	84	83	67	110	28
10	19	103	115	73	128	32
11	22	107	103	78	128	33
12*	42	88	91	65	113	37
13*	15	101	105	73	127	37
14*	20	118	116	93	140	31
15*	58	99	98	71	125	36
Composite of eleven junior colleges	380	90	89	66	116	35
University of Iowa Freshmen	1,052	88	85	62	113	34

* Omitted certain tests; not included in the composite.

TABLE III

RESULTS OF THE IOWA PLACEMENT EXAMINATION, MATHEMATICS APTITUDE, FORM A

Junior College	Number of Students	Mean	Median	Lower Quartile	Upper Quartile	S.D.
1	61	21	20	13	29	11
2	22	23	24	16	30	8
3	52	18	20	9	27	10
4	37	22	23	14	31	10
5	53	21	21	13	28	9
6	30	34	34	30	38	6
7	36	23	21	14	30	11
8	30	23	24	18	28	8
9	20	22	21	13	32	11
10	18	17	17	12	19	8
11	22	26	26	20	33	10
12*	9	24	23	20	28	6
Composite of eleven junior colleges	381	22	22	14	30	10
University of Iowa Freshmen	1,046	20	18	12	26	10

* Omitted certain tests; not included in the composite.

TABLE IV

RESULTS OF THE IOWA HIGH SCHOOL CONTENT EXAMINATION, A-1

Junior College	Number of Students	Mean	Median	Lower Quartile	Upper Quartile	S.D.
1	61	111	110	85	135	33
2	22	121	120	97	139	32
3	53	111	108	90	129	26
4	37	109	105	92	129	29
5	53	117	116	90	142	38
6	30	124	122	96	148	31
7	38	120	118	96	145	33
8	30	115	112	96	137	28
9	20	110	105	88	120	28
10	19	117	123	95	143	30
11	22	131	130	102	151	33
12*	41	111	111	87	138	34
13*	15	105	98	85	124	33
14*	20	107	110	85	130	25
15*	51	116	112	89	138	35
16*	37	94	92	68	119	34
Composite of eleven junior colleges	385	116	113	92	138	32
University of Iowa Freshmen	1,042	113	112	87	138	35

* Omitted certain tests; not included in the composite.

men are practically equal; in English training and mathematics aptitude the junior-college group is slightly superior; in high-school achievement the advantage of the junior-college group is not statistically significant. The weighted composite scores in Table V were secured by combining scores on the tests approximately inversely as their respective standard deviations. While the difference between the groups is slight, it is significantly in favor of the junior-college group.

TABLE V

WEIGHTED COMPOSITE SCORES ON FOUR TESTS

Junior College	Number of Students	Mean	Median	Lower Quartile	Upper Quartile	S.D.
1	59	368	355	280	452	100
2	22	366	368	296	431	107
3	51	346	349	274	399	82
4	37	340	336	278	394	85
5	52	363	368	283	443	109
6	30	412	398	371	445	85
7	36	370	338	308	458	110
8	28	347	346	278	383	84
9	19	355	326	289	431	96
10	17	370	370	332	400	77
11	22	419	413	330	495	96
Composite of eleven junior colleges	373	366	359	291	432	98
University of Iowa Freshmen	1,016	347	340	268	424	102

The norm for the Iowa Comprehension Test is 21; for the Iowa Placement Examination, English Training, 96; for the Iowa Placement Examination, Mathematics Aptitude, 26; and for the Iowa High School Content Examination, 106. Thus, the junior-college group is to be regarded as slightly superior in reading ability and in general high-school achievement. Comparisons among the individual junior colleges show that there is wide divergence in the scores attained. No one junior college is representative of the entire group.

Are the junior colleges of Iowa securing the cream of the Iowa high-school graduates? They are not. Are they getting chiefly those who ought never to be registered in the four-year colleges and universities? Decidedly they are not. Whether this is a blessing or a calamity must be decided independently.

A COMPARISON OF LETTER BOYS AND NON-LETTER BOYS IN A CITY HIGH SCHOOL

WILLIAM A. COOK
University of Cincinnati

MABEL THOMPSON
Hughes High School, Cincinnati, Ohio

The general purpose of the study here reported was to ascertain some facts concerning the scholarship and the educational progress of high-school athletes. Much opinion has been expressed concerning their scholarship, age, regularity of school attendance, and interest in higher education, but very few actual data have been collected. Brief reference is first made to a few findings already published.

Hull[1] examined the marks and intelligence quotients of athletes in the high school at Sullivan, Indiana. He paired athletes and non-athletes as to intelligence and found superior scholarship on the part of the non-athletes to the extent of between 1 and 2 per cent. The widest difference was in foreign language. Hull considered as athletes all boys who continued on the squad and in practice for at least eight weeks whether or not they received letters. However, football and basket-ball were the only sports considered.

Beu[2] reported the results of an investigation of eleven hundred athletes and non-athletes in several Illinois high schools. His findings show equal ability in tests of specific mental functions, equal scores on general-intelligence tests, equal time required to complete the high-school course, and equal ages. As the tables are not all included, some of his conclusions are hardly intelligible, and others are open to question. For example, he gives the median scholarship

[1] J. D. Hull, "A Comparison of the Grades and Intelligence Quotients of Athletes and Non-Athletes in High School," *American School Board Journal*, LXIX (August, 1924), 44, 107–9.

[2] F. A. Beu, "The Mental Ability of Athletes in Comparison with Non-Athletes in High School," *American School Board Journal*, LXXIII (August, 1926), 45, 155.

of the athletes as only .12 of a point higher than that of the non-athletes but reports the mean scholarship of the athletes as 4.8 points lower than that of the non-athletes.

Swanson[1] conducted a survey of the relation of scholarship and participation in various student activities in four high schools in Kansas City. Athletics constituted but one of the activities studied, and the total number of athletes involved was twenty-two boys and seventeen girls. The conclusion reached was that the small number of cases rendered results hardly reliable but that possibly "participation in athletics disturbs to some extent the normal careers of these pupils." Scholarship for boys and girls turned out to be slightly higher during participation than before participation, perhaps because of the desire to remain eligible.

Some studies of interest but of minor importance for the present purpose have been conducted with college students. Westerdarp,[2] using nearly fifty women at the University of Wisconsin, found a negative correlation between mental capacity as indicated by academic average and physical efficiency as indicated by agility, coordination, strength, endurance, and speed. More than five hundred Freshmen in the Ohio State University were given a general-intelligence test and a series of physical tests, comprising the hundred-yard dash, running broad jump, baseball throw, and fence-climbing.[3] The correlation between the two sets of data in either direction was so small in all the tests as to be negligible.

More closely related to the present study is the investigation reported by Burtt and Nichols.[4] Intelligence tests were given to varsity squads in nine branches of athletics at the Ohio State University, and the distribution of the athletes was compared with the distribution of the general student body. In percentile rank the ath-

[1] A. M. Swanson, "The Effect on High-School Scholarship of Pupil Participation in Extra-curricular Activities," *School Review*, XXXII (October, 1924), 613–26.

[2] Dorothy Emma Westerdarp, "Mental Capacity and Its Relation to Physical Efficiency," *American Physical Education Review*, XXVIII (May, 1923), 216–19.

[3] M. H. Landis, H. E. Burtt, and J. H. Nichols, "The Relation between Physical Efficiency and Intelligence," *American Physical Education Review*, XXVIII (May, 1923), 220–21.

[4] H. E. Burtt and J. H. Nichols, "Intelligence of Varsity Athletes," *American Physical Education Review*, XXIX (March, 1924), 125–28.

letes were eight points below the average upper classman, more because of the small number of athletes of high intelligence than because of an excess of athletes of low intelligence. The cross-country and track groups scored higher in intelligence than did the baseball, basket-ball, football, and wrestling groups. The cross-country group alone surpassed the general student body.

Coach McCracken,[1] of Lafayette College, collected from forty-seven leading higher institutions data relative to the scholastic work of 152 team captains in football, baseball, basket-ball, and track. While he concluded that these men were considerably above the average in scholarship, there seems to have been no examination of the distribution of marks in the different institutions to ascertain whether what was reported as "average" really meant "average." Such an examination is prerequisite to any reliable generalization. McCracken placed non-athletic leaders materially above athletic captains in scholarly accomplishments.

The present study was made relative to the full list of letter boys in the Hughes High School, Cincinnati, who were in the classes of 1922 to 1926, inclusive. Since promotions are annual, these groups entered the school, which is a four-year public high school, in September of the years from 1918 to 1922, inclusive. A few boys transferring from other high schools were also included. There was a total of exactly one hundred boys who won letters in one or more of the following sports: football, baseball, basket-ball, track, swimming, and tennis. These branches of athletics are the only ones recognized by the school for the athletic award. Ninety-one of the boys graduated in 1926 or earlier; the other nine failed to graduate.

For comparison with the letter boys graduating, twenty non-letter boys were selected in alphabetical order from each class for the five years indicated. A special group for comparison with the nine letter boys who did not graduate was secured by pairing each of these boys with a non-letter boy who entered at the same time and remained the same number of semesters.

The scholarship average of a boy for a single year was secured by weighting each of his subjects according to the amount of credit

[1] G. Herbert McCracken, "College Athletes above the Average in Scholarship," *Literary Digest*, LXXXII (July 12, 1924), 64–66.

it carried. The general average was secured by assigning equal weight to the annual averages. When a subject was repeated because of failure, the mark received the first time the subject was taken was the only one recorded. Summer-session work was combined with that of the regular school year to determine the annual average.

Since high schools vary somewhat in eligibility requirements and widely in extent of their interscholastic programs, the general policy of the Hughes High School is here stated. An athletic participant must pass a physical examination by the school physician, must be passing in fifteen hours a week of class work the current semester, and must have passed in an equal number of hours the previous

TABLE I

GENERAL SCHOLARSHIP AVERAGES OF NINETY-ONE LETTER BOYS AND ONE HUNDRED NON-LETTER BOYS

	Letter Boys	Non-Letter Boys
Highest	94.0	91.5
Lowest	68.4	70.8
Upper quartile	83.2	82.55
Lower quartile	75.3	76.85
Mean	79.2	80.1
Median	78.5	80.2

semester. The eligibility list is checked weekly, attention being given to deportment as well as to scholarship. The season's program in a single sport includes but two games outside the city. In addition, Senior athletes may take part in the national interscholastic meet staged by the University of Chicago. The trip to Chicago at the time of this meet was the longest undertaken by an athlete in the period studied. Most of the competition is in the home city, and much of the rest is very near. The interscholastic program is extremely moderate as compared with that of some schools, and it should be understood that the findings of this study are applicable to other schools presumably only so far as they follow comparable programs.

Table I shows the highest, lowest, upper quartile, lower quartile, mean, and median scholarship averages of the ninety-one letter boys and of the hundred non-letter boys. The letter group has the wider

range, varying from 94.0 to 68.4; the non-letter boys vary from 91.5 to 70.8. Taken as a whole, the letter boys are dispersed somewhat more widely and fall slightly lower in central tendency.

The scholarship averages by years for letter boys and non-letter boys (Table II) show a distinct sag in the middle of the high-school course. This sag and the rebound from it are more marked among the letter boys probably because more than one-half of them win their first letters in the fourth year and therefore respond more strongly to eligibility requirements. One might also surmise that the older boys have learned better how to harmonize school work with the demands of athletics on time and energy. The small number of boys in both groups who find it necessary to stay a fifth year

TABLE II

ANNUAL SCHOLARSHIP AVERAGES OF NINETY-ONE LETTER BOYS AND ONE HUNDRED NON-LETTER BOYS

Year in High School	Letter Boys	Non-Letter Boys
First	79.4	80.9
Second	79.1	80.4
Third	77.2	79.0
Fourth	80.8	79.8
Fifth	75.9	77.0

to graduate demonstrate their inferior scholastic ability by a pronounced drop to the lowest marks of the entire course.

The effect of participation in athletics is perhaps more accurately determined if the scholarship average of a letter boy the first year he receives a letter is compared with his average the year preceding, when, though he may have been devoting some attention to athletics, he was doubtless less concerned with such activities than during the season when he qualified for his first letter. Table III shows that five letter boys made their first letters in their Sophomore year while maintaining a scholarship average of 75.6; their Freshman average was 80.0. Twenty-six boys received their first letters in their Junior year; their scholarship average that year was 78.6, but the previous year their average was 80.7. The fifty-two boys who received their first letters in their fourth year made a scholarship average of 81.4; the previous year they had averaged only 77.7. The ten letter boys winning their first letters in their fifth year averaged

only 75.0, the same as their average for the fourth year. The conclusion of the previous paragraph is therefore merely strengthened by this specific comparison, the sag being still more evident than in Table II. Until he is a Senior a boy seems to make a lower scholarship average on entering athletics. In his Senior year he reacts strongly, his maturity and experience apparently having much to do with the effect of athletics on his scholarship.

In recent years much attention has been devoted to "point systems," one major purpose being to protect the pupil from overindulgence in school activities. It is therefore interesting to observe the relation of the breadth of a pupil's participation in athletics to his scholastic work. The seventy-seven boys who won letters in only

TABLE III

AVERAGE MARKS BEFORE AND AFTER WINNING FIRST LETTERS

Year in Which First Letter Was Won	Number of Boys	Scholarship Average for Year	Scholarship Average for Preceding Year
Sophomore	5	75.6	80.0
Junior	26	78.6	80.7
Senior	52	81.4	77.7
Fifth year	10	75.0	75.0

one branch of athletics made a scholarship average of 78.5; the fifteen two-letter boys, an average of 79.3; the six three-letter boys, an average of 82.0; and the two four-letter boys, an average of 79.3. In these data there is little to indicate that a pupil's athletic ambition and ability are not fully matched by his ability and willingness to do his class work.

The nine pairs of non-graduates show results different from those in the case of the graduates of the two groups. Eight of the nine letter boys rank higher in scholarship than do the non-letter boys paired with them, and the average advantage of the letter boys is 7 points. Thus, it seems that athletic-eligibility rules may exert a favorable effect on boys not expecting to continue through high school; non-letter boys not interested in athletics are often of an ambitionless type stirred by nothing.

That athletes are more likely to graduate than are non-athletes cannot be denied, but the fact in full can scarcely be attributed to athletics. If only one-eighth of the letter boys receive their first let-

ters before their third year, it is obvious that athletes ordinarily must become upper classmen in order to qualify for a letter. Only a very small proportion of the non-letter boys drop out after entering their third year. It may be conceded, however, that participation in athletics has something particular to do with retaining in school those who require five years to graduate.

The condition just commented on aids in explaining the common impression that athletes are older than are other high-school boys. Athletes seem older simply because they are compared with the general student body. The average age of both the letter boys and the non-letter boys was fourteen years and four months at entrance; but at graduation the average age of the letter boys was eighteen

TABLE IV

HIGH-SCHOOL COURSES IN WHICH 100 LETTER BOYS AND 109 NON-LETTER BOYS WERE ENROLLED

Course	Letter Boys	Non-Letter Boys
General	75	78
Industrial	15	17
Commercial	10	12
Music	.....	1
Special	.....	1
Total	100	109

years and four months while the average age of the non-letter boys was one month less. This is because sixteen of the letter boys remained in high school a fifth year as compared with nine non-letter boys. The letter boys might have fallen still farther behind in rate of progress had they not made more extensive use of the summer session. Of the hundred letter boys, forty attended a total of fifty-six summer sessions; of the 109 non-letter boys, thirty-six attended a total of fifty-three summer sessions.

The courses of study offered at the Hughes High School were selected by the pupils studied as shown in Table IV. The general course is strongly academic, and a large proportion of its graduates enter college. Athletes are not, in the Hughes High School at least, inclined to choose the industrial course or the commercial course and to shun academic subjects, as has often been suspected.

It is conceivable that in the schools which have more extensive

interscholastic programs athletes miss a large amount of school work. Some perhaps have fancied that injuries would also add to the list of absentees. The average absence of the ninety-one letter graduates of this study was 19.1 days; the non-letter graduates missed an average of 20.8 days. For the small non-graduate group, the absence of the letter boys was one-half greater than the absence of the non-letter boys and much greater proportionately than the absence of the graduates. In general, one might conclude that athletic interest causes a pupil to be less willing to miss school because of the necessity of regular practice.

There has been much speculation and some study as to whether different branches of athletics attract different levels of pupil ability.

TABLE V

RELATION OF BRANCH OF ATHLETICS TO SCHOLARSHIP

Sport	Number of Letter Boys	General Scholarship Average
Track	22	81.4
Tennis	5	81.1
Basket-ball	19	80.6
Baseball	27	78.6
Football	46	78.25
Swimming	14	78.0

In the present study the general scholarship average of the letter boys winning letters in each branch of athletics was determined. In Table V each boy is represented as many times as he won letters in the different sports.

Some insist that football selects the individual who rates high in strength almost regardless of mental capacity and that this explains the position of football at the bottom of the outdoor sports. Others attribute the inferior position of football to the fact that it involves severe training and prolonged drill, taxing the strength and the time of the boy more than do other forms of participation. For the former view there is some support in a study of college athletes previously mentioned in this article.[1] Basket-ball, with its premium on quick thinking and fine individual and collective adjustment, stands high in the list despite the grueling training it entails.

[1] H. E. Burtt and J. H. Nichols, *op. cit.*, p. 126.

Are letter boys as likely to continue their education in higher institutions as are other pupils? The answer to this question is given in Table VI. Letter boys from the Hughes High School enter college more often than do non-letter boys but not by any large margin. More striking is the difference in the extent to which the two groups attend the local university. Into the explanation of this enters the possibility that letter boys are under less economic pressure than are non-letter boys, the latter often having to spend their out-of-school hours in gainful employment. This condition, if a fact, also makes it more difficult for the non-letter boy to bear the expense of attending college. If he enrols in college, he finds it advisable to secure his training locally, while living at home. A stronger suspicion, however, is that the letter boys are attracted to college by the

TABLE VI

NUMBER OF LETTER BOYS AND NON-LETTER BOYS ENROLLED IN HIGHER INSTITUTIONS

	Number	Number Enrolled in the University of Cincinnati	Number Enrolled in Other Institutions	Total Number Enrolled in Higher Institutions
Letter boys	91	39	23	62
Non-letter boys	100	55	8	63

lure of participation in athletics as well as by the normal objects of a college education and that they select a wide geographic range of institutions because of special inducements held out by coaches and alumni.

On the whole, there seems to be no justification for the assumption that letter boys are naturally much different in ability from other high-school boys. In educational results the letter boy falls a trifle short of measuring up to the standard, and in rate of progress he is just a trifle slow. It may be that we can hardly expect him to make a more favorable showing with the large drain on his time and vitality. Some hold, too, that prejudiced teachers give him less than his due. Others contend that the majority of teachers give him extra individual attention in teaching and extra consideration in marking. Such assertions will doubtless not be established or discredited until standard tests of achievement are administered as a check on marks.

A STUDY OF THE LOAD OF SENIOR HIGH SCHOOL PUPILS IN LOS ANGELES

HILDUR C. OSTERBERG
Jefferson High School, Los Angeles, California

During the school year 1926–27 the Pupil-Load Committee of the Los Angeles High School Principals' Association studied the load of high-school pupils in order to ascertain, if possible, the prevalence of overload and the connection, if any, between overload and failure.

The questionnaire used asked for information on the following items:

1. The program of studies carried at school.
2. The time spent in preparation of each assigned lesson *exclusive* of time spent attending class.
3. The time spent in extra-curriculum activities.
4. The time spent in club activities not under the auspices of the school.
5. The time spent in private lessons—music, dancing, foreign language, etc.
6. The time spent in paid employment.
7. The time spent in regular home duties for which the pupil is responsible.

The weekly total for each item was tabulated since the variation from week to week for individual pupils tends to be less than the variation from day to day. In addition, each pupil was asked to answer the questions, "Do you consider that you have enough time to get all your lessons daily? If not, why?"

Twenty high schools co-operated in the study. These schools include regular four-year high schools, three-year senior high schools, five-year high schools, and six-year high schools in all sections of the city.

In order that the questionnaire might be administered as uniformly as possible in the various schools, the Pupil-Load Committee, through the Department of Psychology and Educational Research, asked the counselors of the various schools to assume the responsibility for obtaining the data from their respective schools. Since a cross-section was wanted not only of the city as a whole but of each

high school, the counselors were asked to select pupils from their respective schools approximating the following distribution but selected at random within the distribution: (1) forty-five pupils from each of Grades X, XI, and XII; (2) each group of forty-five pupils to represent both sexes and all possible curriculums; (3) one-third of each group to have I.Q.'s less than 90, one-third to have I.Q.'s from 90 to 109, and one-third to have I.Q.'s of 110 or over; (4) only those pupils who were carrying three or more so-called "home-work" solids to be included.

The questionnaires were administered in January, 1927. When they were assembled in February, 1927, in the office of the statistician of the Department of Psychology and Educational Research, the following items of information were available about each pupil who had answered the questionnaire: (1) school, (2) sex, (3) age, (4) grade, (5) curriculum, (6) items of load as enumerated, (7) marks earned during the first semester of the school year 1926–27 (furnished by the counselor), and (8) I.Q. (furnished by the counselor).

There is ample evidence that the pupils answered the questionnaires carefully and sincerely. The credit for this is due to the counselors, who met the pupils in small groups and supervised the filling out of the questionnaires.

The vast amount of detail connected with the tabulation of the data was supervised by the statistician of the Department of Psychology and Educational Research. The questionnaire had been planned so that the Hollerith machine equipment could be used for much of the work.

The tabulations from the 1,981 questionnaires furnish data for many interesting and profitable studies. The Pupil-Load Committee submitted a report to the Los Angeles High School Principals' Association in June, 1927. The committee generously permitted the writer to review this report in connection with her studies made from the questionnaire data. The writer is also indebted to the statistician of the Department of Psychology and Educational Research for a transcript of the data, tabulated from the questionnaires, which furnished the basis for these studies.

The report of the Pupil-Load Committee is too long to be reproduced here. The main items of pupil load and some conclusions

drawn from these items are included in the later summaries. One table, however, may be presented here (Table I).

The correlations shown in Table I between time spent in study and marks earned seem to furnish a fruitful field for the study of negative correlations, as twenty-three, or 56 per cent, of the forty-one coefficients computed are negative. Only four, or 36 per cent, of the correlations for the low I.Q. group are negative; nine, or 60

TABLE I

CORRELATION BETWEEN TIME SPENT IN STUDY AND MARKS EARNED IN THE SEVERAL SUBJECTS

SUBJECT	I.Q.'s LESS THAN 90		I.Q.'s FROM 90 TO 109		I.Q.'s 110 OR OVER	
	Number of Pupils	Correlation	Number of Pupils	Correlation	Number of Pupils	Correlation
Ninth- and tenth-grade English	148	.52	234	−.056	166	.18
Eleventh- and twelfth-grade English	211	.0044	431	−.16	348	−.16
Latin	.....	.....	47	.066	106	.024
Ninth- and tenth-grade modern language	103	−.20	194	.36	175	−.37
Eleventh- and twelfth-grade modern language	.....	.....	46	−.18	58	−.18
Tenth-grade history	62	−.17	120	.08	93	.25
United States history	148	.15	268	−.006	210	−.05
Civics	89	−.048	172	−.76	134	−.089
Economics, etc	41	.11	70	.029	55	−.18
Biology	63	.14	98	−.42	59	−.24
Physics	.....	.....	82	−.096	75	−.094
Chemistry	69	−.048	155	−.080	135	−.023
Geometry	51	.29	168	−.12	152	.08
Higher mathematics	.....	.....	54	.35	77	−.35
Commercial subjects	205	.0098	253	.56	103	.22

per cent, of the correlations for the average group are negative; and ten, or 67 per cent, of the correlations for the high I.Q. group are negative. Most of the coefficients of correlation are too small to be considered significant except that they show tendencies. In fact, thirty-three, or 80 per cent, range between +.30 and −.30, and one-half of these, seventeen, cluster around the zero point. Is not the fact that the coefficients of correlation between the time spent in study and the marks earned are too small to be considered significant of significance in itself?

In order to study more generally the relation between time spent

in study and marks earned, the writer found the intercorrelations between study time and marks ($r = .05 \pm .02$), between marks and I.Q. ($r = .42 \pm .01$), and between study time and I.Q. ($r = -.03 \pm .02$)[1] for the 1,632 pupils whose records showed at least four semester marks excluding "incompletes." Applying the partial-correlation formula merely strengthened the tendencies indicated in the first results: correlation between study time and marks (I.Q. constant), $.07 \pm .02$; correlation between marks and I.Q. (study time constant), $.42 \pm .01$; correlation between study time and I.Q. (marks constant), $.06 \pm .02$.

If the data on which the correlation between study time and marks is based are sufficiently reliable to justify the assumption that there is no appreciable correlation between study time and marks, the situation should be a challenge to every high-school faculty to make "the matter of study," now "one of the weakest points in our whole educational program,"[2] one of the very strongest. A correlation of .42 between I.Q. and marks parallels so closely results from other studies on correlation between intelligence and marks that it may be considered as reliable as the average of these. It is interesting to note that the factor of time spent in study does not appear to affect this coefficient at all. The small negative correlation (small enough to suggest merely chance relationship) between I.Q. and study time has its negative quality slightly intensified when the factor of marks is held constant. It might seem proper to infer that, in mastering a given lesson, pupils with good mental ability need to devote less time to study than do other pupils. Granted this premise, we may go one step farther and state a fact on which educators seem to agree, namely, that the schools are not succeeding in motivating the lessons in such a way that the bright pupils find it worth while to work to capacity.

Pupil load as represented by extra-curriculum and various out-of-school activities combined was studied next. The same 1,632 pupils were included in this study. In addition to the summary table, which shows the percentage distribution of the pupils on the basis

[1] The Pearson product-moment formula was used in finding these coefficients.

[2] Harry C. McKown, "A Study Drive," *School and Society*, XIX (March 1 1924) 257.

of the number of hours of activity reported, two tabulations were made. Table II shows the average marks earned by the pupils reporting various numbers of hours of activity. Table III gives the same facts a different emphasis, showing the average numbers of hours of activity a week reported by the pupils earning various marks.

A study of Table II reveals two interesting situations. First, there is no critical point where the load as represented by the total number of hours of activity a week may be said to tend to lower a pupil's scholarship rank. Second, those pupils who have no outside

TABLE II

AVERAGE MARKS* EARNED BY PUPILS REPORTING VARIOUS NUMBERS OF HOURS OF ACTIVITY A WEEK

NUMBER OF HOURS OF ACTIVITY	I.Q.'S LESS THAN 90		I.Q.'S FROM 90 TO 109		I.Q.'S 110 OR OVER	
	Number of Pupils	Average Mark	Number of Pupils	Average Mark	Number of Pupils	Average Mark
0	129	2.87	173	2.46	109	2.13
1–5	125	2.76	275	2.31	205	1.96
6–10	50	2.75	110	2.31	109	2.01
11–15	35	3.09	56	2.46	53	2.07
16–20	22	2.87	47	2.68	21	1.92
21–25	9	3.09	18	2.74	14	2.19
26–30	7	2.69	9	3.04	17	2.00
31–55	12	2.72	10	2.13	12	2.13
Whole group	389	2.84	698	2.40	540	2.03

* In the evaluation of marks for purposes of computation, the mark of A was changed to 1, B to 2, C to 3, D to 4, and E to 5.

responsibilities such as are included in this tabulation get poorer marks than do those who have outside duties.

The marks in the first group of the distribution shown in Table III averaged almost A; in the second, close to B; etc. The tendency of some pupils in the brightest group to shirk in school seems to carry over into home and community life. Such pupils are only 7 per cent of the group, however. In the average mental-ability group there seems to be a slight tendency for increased hours of activity to lower the average mark. In the low I.Q. group the average numbers of hours of activity vary irregularly and do not seem to increase as the scale of marks decreases. This distribution does not show dif-

ferences which are large enough to prove significant in determining causal relationships between out-of-school activity load and scholarship as measured by semester marks.

The last study made was a study of the failures reported. The failures of the 1,632 pupils included in the study were distributed

TABLE III

AVERAGE NUMBERS OF HOURS OF ACTIVITY A WEEK REPORTED BY PUPILS EARNING VARIOUS MARKS

MARK	I.Q.'S LESS THAN 90		I.Q.'S FROM 90 TO 109		I.Q.'S 110 OR OVER	
	Number of Pupils	Average Number of Hours of Activity	Number of Pupils	Average Number of Hours of Activity	Number of Pupils	Average Number of Hours of Activity
1.0–1.2	4	5.50	25	5.80	70	8.21
1.3–2.2	73	4.64	265	4.89	265	6.26
2.3–3.2	201	6.22	308	6.17	169	8.03
3.3–4.2	94	5.82	94	6.30	33	4.06
4.3–5.0	17	4.18	6	8.00	3	3.00
Whole group	389	5.73	698	5.70	540	6.91

TABLE IV

DISTRIBUTION OF FAILING MARKS OF 1,632 PUPILS

I.Q.	ONE FAILURE		TWO FAILURES		THREE FAILURES		FOUR FAILURES		TOTAL	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Less than 90	64	71	21	23	4	4	1	1	90	38
90–109	82	80	16	16	4	4	0	0	102	42
110 or over	43	90	4	8	0	0	1	2	48	20
Total	189	79	41	17	8	3	2	1	240	100

as shown in Table IV. Naturally, the load of these failing pupils should bear close scrutiny. The summary table gives the main facts of the distribution of the time of these pupils. A few scattered cases appear to indicate overload, but these cases are too few to cause any trend to appear, as the averages show. Rather is there an indication that these failing pupils accept less responsibility, especially in the way of using time in studying their lessons.

In order to ascertain how the failing pupils compare as to load

with pupils who were successful, whose load did not prevent them from earning at least C in every subject, Table V was compiled. Eight hundred "successful" pupils were selected at random as a check group.

The closeness with which the columns of percentages for the subnormal mental-ability groups parallel each other is startling. The failing group shows a slightly higher percentage of pupils engaging in more than five hours of activity a week, but its significance as an

TABLE V

COMPARISON OF LOAD OF SUCCESSFUL PUPILS WITH LOAD OF FAILING PUPILS

	I.Q.'s LESS THAN 90				I.Q.'s FROM 90 TO 109				I.Q.'s 110 OR OVER			
	Successful Pupils		Failing Pupils		Successful Pupils		Failing Pupils		Successful Pupils		Failing Pupils	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Normal program	91	53	48	53	171	49	51	50	133	47	25	52
Excess program	33	19	17	19	78	23	22	22	67	24	4	8
No hours of activity	54	32	30	33	72	21	23	23	60	21	14	29
More than 5 hours of activity	58	34	34	38	122	35	41	40	109	39	20	42
More than 10 hours of activity	32	19	18	20	66	19	28	27	64	23	8	17
Excess program and more than 5 hours of activity	10	6	9	10	23	7	12	12	26	9	2	4
Number of pupils	171	....	90	....	346	....	102	....	283	....	48	....

indication of overload is nullified by the percentage of failing pupils engaging in more than ten hours of activity, which is only one point higher than the percentage for the successful group. There is a possibility that overload caused the failure of the nine failing pupils carrying both excess program at school and more than five hours a week of activity in addition.

Except for a possibility that seems to show up in the normal ability group, we must conclude that the data do not show overload, either of school programs or of outside activities, as a cause or concomitant of failure in school subjects.

The most significant data are summarized in Table VI.

TABLE VI

Summary of Statistical Findings*

	I.Q.'s Less than 90	I.Q.'s from 90 to 109	I.Q.'s 110 or Over	All Pupils
Summary of replies to questionnaire:				
Number of pupils included in the study	465	842	674	1,981
Average number of minutes of study a week	759	732	724	.....
Average number of solids plus physical education	4.9	4.9	4.9	.....
Average number of periods a week in program	37	37	37	.....
Number of pupils in school organizations	246	522	467	1,235
Average number of hours a week	1.51	1.52	1.67	.....
Number of pupils in other clubs	144	362	297	803
Average number of hours a week	2.38	3.62	3.12	.....
Number of pupils taking private lessons	89	181	182	452
Average number of hours a week	8.98	7.17	7.30	.....
Number of pupils employed	137	248	172	557
Average number of hours a week	10.92	7.85	7.87	.....
Number of pupils with enough time for study	374	697	548	1,619
Summary of activity load:				
Percentage of pupils with 0–10 hours of activity a week	78	80	78	.....
Percentage of pupils with 11–30 hours of activity a week	19	19	20	.....
Percentage of pupils with 31–55 hours of activity a week	3	1	2	.....
Average number of hours of activity a week	5.73	5.70	6.91	.....
Average semester marks	2.84	2.40	2.03	.....
Summary of load of failing pupils:				
Total number of failing pupils	90	102	48	240
Number of cases of single failures	64	82	43	189
Average number of minutes of study a week	742.68	714.87	720.23	.....
Average number of solids plus extras	4.0+.8	4.89+.8	4.91+.6	.....
Average number of periods a week in program	37.42	36.89	35.55	.....
Average number of hours of activity a week	5.72	6.74	6.86	.....
Average number of hours of employment a week	18	14	14.75	.....
Number of cases	7	13	4	24
Number of cases of two failures	21	16	4	41
Average number of minutes of study a week	616.19	668.13	818.75	.....
Average number of solids plus extras	4.76+1	5.0+.75	5.0+.50	.....
Average number of periods a week in program	36.33	36.25	32.50	.....
Average number of hours of activity a week	11.56	9.00	9.00	.....
Average number of hours of employment a week	15.25	16.00	10.00	.....
Number of cases	4	3	1	8
Number of cases of three failures	4	4	0	8
Number of cases of four failures	1	0	1	2

* Simple correlations:
Study time and I.Q., $-.03 \pm .02$
Study time and marks, $.05 \pm .02$
Marks and I.Q., $.42 \pm .01$
Means: I.Q., $102.31 \pm .23$; study time, $733.37 \pm .48$; marks, $2.38 \pm .01$
Sigmas: I.Q., $14.07 \pm .23$; study time, 288.18 ± 4.81; marks, $.78 \pm .01$
Range: I.Q., 67–146; study time, 50–2,250; marks, 1.0–5.0
Partial correlations:
Study time and marks (I.Q. constant), $.07 \pm .02$
Marks and I.Q. (study time constant), $.42 \pm .01$
Study time and I.Q. (marks constant), $-.06 \pm .02$

CONCLUSIONS FROM THE REPORT OF THE PUPIL-LOAD COMMITTEE

1. The time spent in study as reported by Los Angeles high-school pupils is approximately the same as the time reported in similar studies.

2. Pupils report approximately one period of study (forty minutes) a day for each subject.

3. Differences in study time reported by the three mental-ability groups are small and not significant beyond indicating a tendency for the low group to study a very little more than do the other groups; differences in the average amount of time devoted to study by the three senior high school grades are insignificant, the eleventh grade having the highest average; differences by sex show a larger amount of time spent in study by girls than by boys.

4. Those in the low mental-level group who reported private lessons and employment appear to devote a larger amount of time to these activities than do those in the other groups; the opposite is true in the case of the time devoted to club activities both in school and outside, but the differences are small.

5. Only a small group of pupils reported that they do not have sufficient time for study.

6. The correlations between study time and marks for various subjects are, for the most part, too low to be significant except that there seems to be a tendency for extra study to result in better marks in the case of the subnormal mental-ability group and in poorer marks in the case of the other groups.

7. These findings suggest the necessity of investigating the factor of poor study habits as a cause of poor scholarship.

CONCLUSIONS FROM THE STUDY OF THE CORRELATION OF I.Q., STUDY TIME, AND MARKS

1. The simple correlations between study time and marks, marks and I.Q., and study time and I.Q. are only slightly, if at all, changed by the partial-correlation formulas when the factors I.Q., study time, and marks, respectively, are held constant.

2. Unless the correlation between study time and marks (I.Q. constant) is too unreliable to justify any conclusions, three possible factors may account, singly or combined, for the chance relation that seems to exist between study time and marks, namely, (*a*) the

possible unreliability of the study-time data as reported by the pupils, (*b*) the subjective element not yet eliminated from teachers' marks, and (*c*) the lack of study habits that function effectively.

3. If the third reason is prevalent, high schools need to take steps to teach pupils the technique of how to study effectively.

4. The fact that the correlation between marks and I.Q. remained unchanged when the factor of study time was held constant may be accounted for in two ways: (*a*) The coefficient of correlation may be inherently unreliable because of unreliable data and, as a result, not show the effect of differences in study time. (*b*) Differences in amount of study do not appear to influence the tendency for good marks to be given to pupils of good mental ability.

5. If we assume the second hypothesis and if the reports on study time are sufficiently reliable, we might expect a maximum of real study for an hour a day, for example, to yield results fully as satisfactory, at least so far as marks go, as those now obtained with much more study.

6. A chance relation with a possible negative tendency appears between study time and I.Q. when marks are held constant. This, too, may be accounted for in two ways: (*a*) The coefficient of correlation may be unreliable because of unreliable data and, as a result, not show the true relation. (*b*) Pupils with good mental ability need less study to master the same lesson assignment than do other pupils, and, unless there is sufficient motivation, bright pupils do not find it worth while to work to capacity.

CONCLUSIONS FROM THE STUDY OF ACTIVITY LOAD

1. There appears to be no appreciable difference in the three mental-ability groups in the distribution of hours of out-of-school activities beyond the fact that (*a*) only 20 per cent of the bright group carry no such load, (*b*) 25 per cent of the normal group carry no such load, and (*c*) 35 per cent of the subnormal group carry no such load.

2. About 80 per cent of each of the three mental-ability groups reported ten hours or less a week devoted to activities other than school duties; 20 per cent reported a load of from eleven to thirty hours; and only from 1 to 3 per cent reported more than thirty hours a week.

3. Because variations in semester marks for different hours of

activity are small and irregular, no critical point appears where the load as represented by the total number of hours of activity a week may be said to tend to lower the pupil's scholarship rank. This holds for all three mental-ability groups.

4. Pupils who report no responsibilities aside from school duties make a lower average in scholarship than do those who carry as many hours or more than the average of their group.

5. When the load reported is distributed according to the marks earned, the mental-ability levels show different situations. (*a*) In the case of the bright pupils the tendency to shirk in school seems to carry over into home and community life if it appears at all. (*b*) At the normal level there is a slight tendency for increase in activity load to vary directly with decrease in scholarship average. If the data are sufficiently reliable, this may be a significant trend. (*c*) The variations in load for the lowest group are slight and irregular, showing no definite trend.

6. The findings of this study seem to agree with the findings of similar studies. Participation in extra-curriculum activities in school or in other duties not under the auspices of the school does not appear to affect a pupil's scholarship rank directly.

CONCLUSIONS FROM THE STUDY OF THE LOAD OF FAILING PUPILS

1. The chances for pupils with more than average mental ability to finish a semester without failures seem about twice as good as the chances for pupils with less than average ability.

2. One-half of the pupils who failed in two or more subjects lack normal mental ability.

3. Study of the load of failing pupils fails to reveal any marked tendency toward overload either in school program or in outside activities.

4. Comparison of the load of failing pupils with the load of successful pupils (those with average semester marks of C or better and no failures) reveals that, except for a possibility of excess of activity that appears to show up in the normal mental-ability group, the data do not show overload either of school program or of activities outside of school as a cause or concomitant of failure in school subjects.

5. The current literature on causes of failure does not suggest overload as a factor.

JUNIOR-COLLEGE MATHEMATICS IN CALIFORNIA

ELVIN A. HOY
Palo Alto Junior College, Palo Alto, California

With the reorganization of the first two years of college work into a junior-college division and with the advent of separate junior colleges throughout the country, there has been an accompanying trend of exploration and experimentation to determine the courses best suited to the capacities, interests, and probable future vocations of the students enrolled. Mathematics is having its share of readjustment in this process of unifying education of secondary nature.

In order fully to appreciate the status of mathematics in this new scheme of education, it is necessary to review briefly the essential functions of the junior college, which are admirably summarized by Professor Aubrey A. Douglass in his textbook on *Secondary Education*. These functions are:

1. To democratize higher education by making it more accessible to the general population. Many young people who now cannot afford to attend college would be able to do so if it were possible for them to remain at home; at the same time, home influence could be longer extended. The smaller enrolments of the junior college would permit greater attention to the individual needs of the students.

2. To effect a needed adjustment in the organization of the school system. It should place in the secondary school the work that is appropriate to it, thus leaving the university free to fulfil its real purpose.

3. To offer two years of work in advance of the senior high school should the student desire to continue his education. This work should be acceptable to the higher institutions in case the student desires to complete a liberal-arts course; similarly, it should meet the pre-professional requirements of schools of law, medicine, etc.

4. To supply what may be termed "semi-professional training." There is need of vocational training at a higher level than the present secondary school and lower than the university. Such training is inadequately provided for in the public-school system, and the junior college is the logical institution to offer it.[1]

[1] Aubrey A. Douglass, *Secondary Education*, pp. 69–70. Boston: Houghton Mifflin Co., 1927.

The mathematics departments and the junior-college curriculums in general seem to uphold all these aims except the last. Several surveys have shown that the majority of junior-college students continue their higher education in the universities. This is due to the fact that most junior colleges offer the basic preparatory courses as a foundation for advanced study but fail to offer any semi-professional or vocational training, thereby neglecting one of their most important functions. The present trend is to develop such work and to include in the mathematics department such courses as shop mathematics, mechanics, business mathematics, theory of investments, and plane surveying.

The junior colleges of California have developed into four distinct types. There are sixteen junior colleges existing as high-school departments; nine are established in independent districts; six are in teachers' colleges; and eight or more are military, denominational, or other private schools. From available catalogues it was found that thirty-three of these junior colleges offer the courses listed in Table I. This table is to be read as follows: the first semester of intermediate algebra is offered three hours a week throughout the semester for three units by five junior colleges; the second semester of intermediate algebra is offered for two units by one junior college; intermediate algebra is offered as a year course for two units each semester by two junior colleges, for two units the first semester and three units the second semester by one junior college, and for three units each semester by six junior colleges. The semester unit infers the customary hour of class work accompanied by two hours of preparation each week during the semester of eighteen weeks.

Table I portrays vividly the great attempt the junior college is making to reorganize and adjust the college curriculum to fit the individual needs of the students. The six or seven Freshman and Sophomore courses offered by most state colleges and universities are listed in the mathematics departments of this young generation of junior colleges as twenty-six distinct courses arranged in no less than fifty different forms. For instance, calculus has been reorganized into eight different types of courses in order to care for the needs of the scientist, the engineer, the research student, the student entering business, or the student desiring merely the general fundamentals of mathematics.

TABLE I

MATHEMATICS COURSES OFFERED IN THIRTY-THREE JUNIOR COLLEGES OF CALIFORNIA

Course	Number of Semester Units	Number of Junior Colleges
Intermediate algebra:		
First semester	3	5
Second semester	2	1
One year	2–2	2
One year	2–3	1
One year	3–3	6
College algebra:		
One semester	2	2
One semester	3	16
One year	3–3	7
One year	4–4	1
Plane geometry:		
One semester	3	2
Solid geometry:		
One semester	2	4
One semester	3	7
Trigonometry:		
One semester	2	1
One semester	3	19
Plane analytic geometry:		
One semester	3	7
One semester	4	2
One semester	5	1
Plane and solid analytic geometry:		
One year	3–3	1
Analytic geometry and differential calculus:		
One year	3–3	16
One year	4–4	3
One year	5–5	2
Analytic geometry and college algebra:		
One year	5–5	1
Synthetic geometry:		
One semester	3	1
Introduction to projective geometry:		
One semester	3	4
Descriptive geometry:		
One semester	2	1
One semester	3	3
One year	3–3	1
Differential calculus:		
One semester	3	6
Differential and integral calculus:		
One semester	5	1
One year	3–3	14
One year	4–4	3
One year	5–5	2
Solid analytic geometry and integral calculus:		
One year	3–3	6
One year	5–5	1
Advanced calculus:		
One semester	3	2

TABLE I—*Continued*

Course	Number of Semester Units	Number of Junior Colleges
General analysis:		
One year	3–3	2
Mathematical analysis:		
One year	3–3	6
Advanced mathematical analysis:		
One year	3–3	3
Mathematical theory of investment:		
One semester	2	2
One semester	3	13
One year	2–2	1
Business mathematics:		
One semester	2	1
One year	3–3	1
Elementary statistics and interpolation:		
One semester	2	1
One year	3–3	1
Shop mathematics:		
One year	3–3	1
Mechanics:		
One semester	3	2
One semester	4	1
Elementary astronomy:		
One semester	3	3
Plane surveying:		
One year	3–3	8

College algebra, trigonometry, analytic geometry, differential and integral calculus, and theory of investment are offered by most junior colleges, while intermediate algebra, solid geometry, mathematical analysis, and plane surveying are found in a large number of junior colleges. The astronomy and plane surveying now included in the mathematics departments of a few junior colleges will probably be placed in the departments of science and civil engineering, respectively, when these departments are organized.

The junior-college movement is still in the embryonic stage of exploration and adjustment, as thoroughly attested by the wide scattering and non-uniformity in the mathematics offered. However, it is trusted that in this process of popularization educational standards will be maintained and that the university will be left free to develop a rigorous program of research and professional study.

WHAT SIZE JUNIOR HIGH SCHOOL?

S. P. UNZICKER
Roosevelt Junior High School, Fond du Lac, Wisconsin

Is there an ideal size for a junior high school? Of course, a city of less than ten thousand population will have only one junior high school unless the city is spread over an unusually large area. In larger cities, however, where there is a possibility of a number of schools, what is the size best suited for the purpose of organizing a program of curricular and extra-curriculum activities and at the same time providing personal contact between the principal and the student body and a fairly close acquaintanceship among all the pupils in the institution? In a city of thirty thousand inhabitants having a seventh-, eighth-, and ninth-grade population of perhaps eleven hundred, would it be better to organize one or two junior high schools? This article is not intended to be a theoretical consideration of the question. It is written rather for the purpose of recording some observations as the result of administrative experience in one of two junior high schools enrolling about five hundred pupils each which have been combined into one.

It is possible to have larger classes in the larger school. Formerly there were from seventy-five to ninety pupils in each of the grades from VII B to IX A. Thus, the enrolment in any particular grade was too large for two sections and usually too small for three. In the larger school with twice the enrolment, five sections per grade are made. This has resulted in increasing the average number of pupils in classes in academic subjects to a little more than thirty. In the elective subjects in the eighth and ninth grades, the results have been even more marked so far as increase in size of classes is concerned. Obviously, if there are, for example, eight electives in a Grade IX B having 125 pupils, many sections will be unnecessarily small; while in a school having 250 pupils in Grade IX B with the same number of electives, the classes can be much larger. In practice it was found that the number of pupils electing certain subjects

was frequently so small that classes could not be organized in these subjects. Since the schools have combined, the average size of elective classes has been increased more than 50 per cent. As a result of this increase in size of classes, it has been possible to reduce the instructional budget by several thousand dollars. This reduction has been accomplished without sacrificing high standards of teaching efficiency.

Closely related to the size of classes and consequently to the cost of instruction per pupil is the investment in special equipment and special rooms. Formerly it was possible to use to their maximum capacity the sewing, cooking, woodworking, and fine-arts rooms, but far from the maximum use was made of the electrical, mechanical-drawing, home-mechanics, "opportunity," and "exceptional" rooms. In a school of five hundred pupils either the special equipment must remain idle for a large part of each day, or, more probably, because of the necessity of providing duplicate equipment and its part-time use, not as great a variety of special subjects can be offered as in a school of twice the size. Before the two schools were combined, there was a sufficient enrolment for the full-time use of one sewing room, one cooking room, one music room, and one art room in each building. Since the schools were combined, there are two of each of these rooms, and it is possible to use to capacity an electrical room, a mechanical-drawing room, a home-mechanics and sheet-metal room, an opportunity room for certain types of retarded pupils, and an exceptional room for subnormal pupils. A junior high school of about one thousand pupils can offer a wider range of exploration courses than can two schools of one-half that size.

Not only has the range of special subjects been increased, thereby increasing educational opportunities, but the fitting of the course of study in the academic branches to the needs and capacities of the pupils has been greatly facilitated and administratively simplified. In a class of 150 pupils, divided into five sections on the basis of intellectual capacity, achievement, and age, the first section is given a very much enriched course of study; the second, third, and fourth sections are given an "average" course; and the fifth section is given the minimum essentials. Although in any section there is obviously a range in ability, in aptitude, and in interest, the first

section, consisting of the brightest 20 per cent, does more difficult work and a larger amount of independent research than does any other section. Special training is given to the gifted pupils. There is little similarity in content or in method of presentation of material between the fifth section, constituting the lower 15 to 20 per cent, and the first section. Much more time must be given to presentation of material in the fifth section; different approaches must be made; and very much more opportunity for drill must be given. The pupils are over-age, are more mature physically, have different interests, and, for the most part, will not continue their education along academic lines. When there were only three sections to a grade, the upper and lower 30 to 35 per cent were in special classes instead of the upper and lower 20 per cent. Although there was some opportunity for special treatment in the different sections, there was a much greater range in ability and interest represented in each section, and the advantages of homogeneous grouping were lessened to that degree.

Although provision is made in departmental classes for the lower 20 per cent, the number of retarded pupils needing individual attention is sufficiently great to warrant an opportunity room and an exceptional room. Inasmuch as the writer has described the work of these rooms elsewhere,[1] they are simply mentioned here. Suffice it to say that the housing of the entire junior high school population in one building has made these rooms possible; these rooms, in turn, have meant increased educational advantages for mentally handicapped boys and girls.

In the larger school there are no less increased advantages for extra-curriculum activities than for curricular activities. The more advanced junior high schools have made provision for exploration by organizing a variety of clubs in which pupils are permitted to engage in activities that are of particular interest to them. Some of the leading schools of the country have made provision for the clubs to meet during the regular school day, making them, in fact, curricular activities but shifting the responsibility for their organization and leadership to the pupils themselves to a much larger extent

[1] S. P. Unzicker, "The Junior High School and the Mentally Handicapped Adolescent," *School Review*, XXXVI (January, 1928), 52–57.

than would be practicable in the ordinary classroom activities. The school of which the writer had charge so organized these clubs. With less than twenty-five teachers, it was possible to have nearly twenty such school-time clubs. To be sure, this offered a wide range of choice to the individual pupil. In the combined school, however, having almost twice the number of teachers, it has been possible to offer a much larger variety of activities. The following school-time activities were engaged in during the first semester of the school year 1927–28:

Art
Arts and Crafts
Athletic (boys)
Band
Book Lovers
Boy Chefs (2 sections)
Boys' Glee Club
Camp Fire Girls (4 sections)
Crocheting
Debate
Declamatory
Dramatic (4 sections)
Drum Corps
Embroidery (3 sections)
Folk dancing
Girl Reserves
Good Spellers
Ike Walton
Junior Red Cross
Lamp shade
Nature
Needlecraft
New inventions
Orchestra
Penmanship
Sign-painting
Student Council (by election)
Toy-makers
Traffic and Police
Tumbling (boys)
Tumbling (girls)
Valet (boys)

Incidentally, it should be mentioned that, when teachers are employed, serious consideration is given to the ability of the applicants to sponsor particular activities.

There has been a gain in the quality of administration of the junior high school as the result of combining the schools. We all have our likes and dislikes, our special abilities and interests. This is no less true of administrators than of any other group of individuals. It is most unusual to find a person who combines all the qualities of an ideal principal. Few individuals have both the ability to discipline pupils and be the dynamic inspirational leader of their activities on the one hand and the mathematical ability and interest in detail necessary to construct scientifically an intricate schedule of classes and furnish leadership and assistance in the construction of curriculums on the other. To use the terms of psychology, the

former activities require an extrovert; the latter, an introvert. In a small school the principal must be both; in a large school the principal may be one type of individual and the vice-principal the other type. The combination makes for a well-developed school. The system benefits without increasing administrative expenditure.

The reader is no doubt wondering about the disadvantages. Don't pupils have too great a distance to go? Isn't personal contact between teachers and pupils and between the principal and pupils lost in a large school? How can school spirit be developed in the smaller cities which have only one junior high school? In Fond du Lac the junior high school building was originally the senior high school building and is centrally located. The vast majority of pupils live within less than a mile, and very few pupils live more than one and one-fourth miles from the school.

The principal is able to give his personal attention to individual cases of maladjustment whether it is discipline, irregular attendance, or a dozen other details which bring the principal of a smaller school in contact with the pupils. Furthermore, the school is not so large as to prevent the pupils from becoming acquainted with the great majority of their classmates. Regular assemblies three or four times a week help to develop the same type of school spirit that was developed in the smaller schools. It is believed that there has not been any loss in this respect. The writer has had no administrative experience in larger schools, but he has been told by supervisors in one large city that they have found that junior high schools of from eleven to twelve hundred pupils are most advantageous for administrative purposes and that, when the fourteen-hundred mark is approached, so much administrative and personnel detail has to be delegated to teachers or to special offices that the school really becomes a number of individual units within the building.

When the two schools were combined, the loss of competition between the schools in football, basket-ball, debate, banking, etc., presented a real problem. Group competition means much to the junior high school pupil, and the right kind of school spirit and traditions can be developed through such competition. Because of the extreme youth of junior high school pupils, it is not desirable, except in rare instances, to arrange contests between different cities.

The situation was met by dividing the school into two groups, each group being represented by one of the school colors—purple and gold. Competition is fostered between these groups. As much good-natured and whole-hearted rivalry is developed and keen enthusiasm displayed in the contests between the purple and the gold as is desirable for the morale of the school and as one would wish for in interschool activities.

Although the tendency in smaller cities has been to organize junior high schools of about five or six hundred pupils and to build additional schools as the enrolment increases beyond this point, the experiences of Fond du Lac with the smaller and the larger schools present convincing evidence that cities will benefit by the larger junior high school because of the increased educational opportunities in such a school.

COMPARATIVE VOCATIONAL SUCCESS IN A TRADE SCHOOL AND IN INDUSTRY

ORLIE M. CLEM
Syracuse University, Syracuse, New York
H. S. BENNETT
Rochester Shop School, Rochester, New York

Does vocational education really function? What kind of pupils do vocational high schools select? What is the correlation between the success of pupils in a vocational shop school and their success in industry after leaving the school? To answer these questions in terms of one vocational shop school was the purpose of the study here reported.

The Rochester Shop School was used for the experiment. This school was originally organized for the purpose of giving training to that large group of boys who leave school at an early age. The specific problem of the experiment was (1) to determine the characteristics of pupils in the Rochester Shop School and (2) to determine whether the pupils receive a type of education which really functions as a preparation for future education or for effective adjustment in industry. This study presents significant data on these problems. At the time the study was made (1923) the school had been in operation for fifteen years. The study was based on the records of 232 pupils and their replies to a questionnaire.

The first problem investigated was the ages of the boys at the time they entered the school to determine whether the age of entrance has any relation to the length of time the boy remains in school and to the work selected in industry. The compulsory-education laws play an important part in the lives of the boys at this time, and the results indicate this fact. Table I shows the ages of the 232 boys at the time they entered the school. It can readily be seen from this table that it is not the boy who is slow in academic work who selects vocational work on reaching the end of the elementary school and the age at which it is possible to go to work.

Those entering at the age of twelve or thirteen may be considered the accelerated group, the normal boy being fourteen years of age at entrance. Eighty-five per cent of the boys who entered when they were seventeen years of age or older were from the academic high schools; this fact accounts for their advanced ages. The greater number of the elementary-school boys of this age are working.

TABLE I

AGES AT WHICH 232 BOYS ENTERED THE ROCHESTER SHOP SCHOOL

Age	Number of Boys
12	6
13	35
14	94
15	58
16	26
17	13
Total	232

Table I shows that only 18 per cent of the boys in the group studied were in school because they were too young to go to work.

TABLE II

NUMBER OF YEARS SPENT IN THE ROCHESTER SHOP SCHOOL BY 232 BOYS

Number of Years	Number of Boys
1	73
1½	22
2	64
2½	28
3–3½	12
4	33
Total	232

The large majority, or 82 per cent, of the boys were old enough to enter some unskilled employment, but it would seem that either the boys themselves or their parents saw the advantages of trade training. This point of view seems to be supported by an investigation made in January, 1926, which showed that 43 per cent of the boys in the school worked outside of school hours.

Table II shows the length of time the boys remained in school.

This table shows that a large number of boys drop out at the end of the first year; they leave school partly because of economic pressure and partly because they have received some training and are able to secure work at their chosen trades. The boys attending school two or two and one-half years usually remain until the New York State two-year vocational certificate is granted and secure work during the summer. Those who remain after this are usually boys who do not feel the economic pressure as strongly as do other boys. This table shows that 73 per cent of those who remained after two and one-half years completed the four years of high-school work.

To check the reasons for leaving school, the writers investigated the reasons for going to work. Table III shows in detail the results

TABLE III

REASONS GIVEN BY 232 BOYS FROM THE ROCHESTER SHOP SCHOOL FOR GOING TO WORK

Reason	Number of Boys
Parents needed help	63
Desire to work	51
Received two-year certificate	75
Received four-year high-school diploma	33
Other reasons	10
Total	232

of the investigation. The largest number of boys leave immediately following the granting of the New York State two-year vocational certificate. The next largest claim on the boys is the parents' need of financial assistance, as the boy can often get a job when the parent is out of work. In most cases of this type in the present study the parent was in non-skilled industry and the boy secured work at a skilled trade.

The most interesting reason for leaving school, or, as Table III shows, for going to work, is having received the four-year industrial high school diploma. The fact that thirty-three boys remained the entire four years indicates that they realized they were getting something from the instruction. The outstanding item is that eight of the boys were in college or completing college in 1923. The desire to go on in education was probably the direct result of finding something in school work that aroused their interest in higher education.

Of the eight boys who entered college, three graduated from the drafting department; three went on from the electrical department; and two were from the chemistry department. This would indicate that these are the departments which either select college material or inspire a boy to go to college.

Six boys who did not finish the four-year course reported that they had entered college or would enter the following autumn. Several of the boys found it necessary to enter industry and complete their preparation for college in the evening school and extension classes.

The replies to the questionnaires were coming in during the first three months of the year 1923, and Table IV shows the location of

TABLE IV

LOCATION OF 232 BOYS FROM THE ROCHESTER SHOP SCHOOL IN 1923

	Number of Boys
Working at trades followed in school	143
Working at allied trades	46
Working at non-skilled trades	35
Out of work	0
In college	8
Total	232

the boys at that time. Sixty-two per cent of the boys reporting were working at the trades in which they received instruction while they were attending the Rochester Shop School. The trades which they were following were not always their first choices on entering school.

It is always to be expected that some boys will find the trades which they followed in school are not just the work they desire to follow through life and will transfer to something else. This is indicated by the fact that forty-six boys were working at allied trades, as shown in Table IV. The writers have not been able to find out just why these boys transferred, but the fact that they were in some work requiring skill shows that their jobs connected up with their school training. The number of boys in the unskilled trades is small, being only 15 per cent of the total number of boys reporting. When it is considered that no boy reported being out of work and that 28 per cent of the boys left school before they were sixteen, the age

necessary to enter industrial plants where machines are used, it is evident that their training caused them to seek employment where skill is required.

The percentage of the boys entering college (6 per cent) may seem small, but these boys did not plan to go to college when they registered in the Rochester Shop School. One boy had to be taken to school during his work in the seventh and eighth grades, but, after being in the Rochester Shop School, he became interested in what education can do for a boy and in 1923 was making progress in the University of Rochester. As only 15 per cent of the boys were working at non-skilled trades, it seems that vocational education functioned in the lives of 85 per cent of the 232 boys.

The weekly bulletin of the Rochester Chamber of Commerce of April 30, 1923, makes the statement that at that date Rochester had a total of 64,048 persons employed in industry by 250 companies. This means that a large percentage of the people of Rochester are engaged in occupational labors. It must be recognized that the occupational labors clearly represent the basic service to humanity. "Those who object to vocational education in public schools because manual labor is sordid and unclean should note that its frequent unloveliness is due not to the fact that men work but to the conditions of their labor."[1]

To train the pupils of today, the application of science must be taken into consideration. Labor-saving machinery has made it possible to multiply the product without increasing human labor. The mechanic as properly conceived represents the incomplete stage in the development of technical efficiency. He has been trained to strength and dexterity on the operative side, which is only one side of the training he needs and is really the less fundamental side. He lacks the thought training which would make him think in terms of his working situation. The result is that with the changing of machinery he is not able to cope with the new situations which arise.

The wages received per hour were considered as a criterion for judging success in industry. Table V shows that the boys made progress in the industrial world in proportion to their training in school. The table shows the mean wages earned by each group, and the relation of each curve to the other two shows the fruits of in-

[1] Franklin Bobbitt, *The Curriculum*, p. 56. Boston: Houghton Mifflin Co., 1918.

dustrial training. Obviously, however, innate differences in ability and intelligence should not be overlooked. At the end of the third year the mean wage of the group attending school two years was a fraction of a point below the mean wage of the group attending school one year. The writers explain this by the fact that three of the boys attending school one year entered the school at a mature age as compared with the average age of first-year high-school boys. These three boys received training for one year and then went into industry. Their age and mature judgment made it possible for them to advance faster in industry, and, as a result, they were getting the wages of a skilled mechanic. This causes the variation in the groups.

The curve for the boys who remained in school three or more years starts higher than do the curves for the other groups and is

TABLE V

AVERAGE NUMBER OF CENTS EARNED PER HOUR BY BOYS ATTENDING SCHOOL ONE YEAR, TWO YEARS, AND THREE OR FOUR YEARS

Number of Years in School	First Year Out of School	Second Year Out of School	Third Year Out of School	Fourth Year Out of School	Fifth Year Out of School
One	30	32	51	55	61
Two	33	49	50	60	70
Three or four	40	50	60	65	72

higher at the end of the fifth year. The difference at this point is not so great as many of the boys who leave school after one or two years have high I.Q.'s and are capable of becoming skilled mechanics. Boys five years out of school are all skilled mechanics, and there is little variation in the wages paid to such workers. A study of the answers to the questionnaires and of the location of the boys in 1923 leads the writers to believe that the boys who remain in school four years have better chances of success than do those who leave after shorter periods. As a whole, the initial wages of the boys studied were greater; their wages in 1923 were greater; and their positions seemed to lead toward brighter futures.

Table VI compares the earning capacity of two groups. In all but three instances, the boys in the first group received marks in school which indicated either good or excellent progress. The wages received in industry indicate that they all made progress as compared with the boys in the other group. They were working at the

same trades in which they received instruction in the Rochester Shop School or in lines of work connected with those trades with the exception of one boy who worked at his trade to support himself while he studied music. His rate of pay at the time he left the trade indicates that he was successful. The number of music pupils which he had made it necessary for him to give up his trade for the new work, but his success shows the value of the training to him.

Pupils 20, 24, 26, and 27 either were heads of departments or held other responsible positions. All others in this group were receiving the wages paid to better-class mechanics. Pupil 22 had been with a company only a few months and had received three increases in salary in this time because of his ability to do in a first-class manner the work assigned to him. A number of the boys were with the companies with which they started on leaving school.

TABLE VI

AVERAGE NUMBER OF CENTS EARNED PER HOUR BY TWO GROUPS OF BOYS

	First Year Out of School	Second Year Out of School	Third Year Out of School	Fourth Year Out of School
Boys who were successful in industry..	28	37	49	68
Boys who were failures in industry....	24	28	30	27

The second group of boys whose wages are shown in Table VI failed in industry as well as in school. A summary of the marks they received in school shows that only one mark of "good" was received by the entire group, four marks of "fair," thirteen marks of "average," and eight marks of "poor." The wages received by these boys indicate that their success in industry was not any greater than their success in school.

Pupil 28 showed the best progress of any of the boys in this group. He received a mark of "fair" for the year he was in school and was making fair progress in industry; he was the only boy remaining at his trade after being out of school any length of time. Pupil 40 was making fair progress at a trade different from the one he followed in school. He was rated "poor" on his term's work, but indifference was his greatest fault. He had an I.Q. high enough to be among the leaders, but he failed to use his abilities to advantage.

A number of the boys in this group worked at their trades for a time but later lost their jobs because of inefficiency. This is particularly true in the case of Pupil 38. This boy was hired in a plant in which several of the boys from the school had made good records. After he was hired, the employment manager asked for his record in the Rochester Shop School. It seems that the boy was employed at the request of someone related to him. The employment manager was informed that the boy had made a poor record in school and that he could not be expected to do the trade job in a satisfactory manner. The boy was doing unskilled work in a drygoods store in 1923, which would seem to indicate that the school's estimate of him was correct.

The other boys in this group had tried several jobs and had drifted from one thing to another. Their school records show that they were not able to concentrate and to do the school work; neither can they work into responsible positions and retain them for any length of time.

It is the judgment of the writers that the pupils who made good marks in school have been successful in industry in proportion to their success in school and that their success has a high correlation with the length of time they remained in school. The pupils who were poor students in school have been more or less failures in industry in every case studied. In almost every case the boys who have been failures in industry began to work at their trades on leaving school, but after a time their lack of initial ability made it impossible for them to progress and they were gradually eliminated from the skilled trades.

The conclusions drawn from this investigation are as follows:

1. All the boys who entered college made good marks in school.

2. The records of the boys who were successful in industry show that they had made good marks in school and were receiving good wages in industry.

3. The boys who had failed in school were doing about as poor work in industry and in most cases had dropped out of the skilled trades. This would seem to indicate that vocational education will not solve all modern educational problems but is one step toward the elimination of some of the difficulties.

Educational Writings

REVIEWS AND BOOK NOTES

Popularized psychology for adolescents.—Several recent attempts have been made to simplify psychology so as to bring it within the comprehension of secondary-school pupils. One of these efforts toward the popularization of psychological subject matter has resulted in a book[1] by a worker who has been interested in the measurement of what she calls "will-temperament traits."

The author presents in twelve chapters a very simple and elementary treatment of such psychological topics as the sense organs, perception of space and distance, illusions, perception of time, reaction time, memory, rationalization, learning, vocational guidance, aptitude tests, measurement of intelligence, emotions, and certain psychological aspects of athletics. A definite attempt has been made to discuss the foregoing topics under chapter headings calculated to stimulate the curiosity and interest of the adolescent boy or girl. For example, the sense organs of touch, taste, and smell are described in a chapter entitled, "How Nature Tattoos Us," and the various forms of rationalization employed by man to avoid the unpleasant are mentioned in a chapter entitled, "Camouflaging." An examination of the topics discussed indicates that only the individual phases of psychology have been presented, whereas certain of the social products of human intelligence should prove of interest to the adolescent who is developing rapidly into a social being.

The book includes many of the devices and "tricks" which are frequently used to arouse the interest of the beginner in psychology but which add little to a real understanding of psychology as a body of principles useful in explaining many of the phenomena of human behavior. At times the language is of the now-listen-children-and-you-will-hear type, which may give offense to the adolescent, who frequently considers himself a rather mature person. In view of the expressed purpose of the treatment, it may be out of place to suggest that attention is given to psychological devices and tricks of the puzzle type as a means of entertaining the reader and his friends rather than to an account of what the information means in terms of modification and improvement of human behavior. The editor, Edwin E. Slosson, expresses as follows the purpose of the series of books to which this book belongs:

[1] June E. Downey, *The Kingdom of the Mind.* New York: Macmillan Co., 1927. Pp. x+208. $2.00.

These books are intended to be read rather than to be studied. They are not designed to be tasks, but recreations. They do not follow the conventional classification of the college but treat of natural and industrial processes from a novel and practical viewpoint. They show that science is not a remote and recondite study but a part of everyday life, the unseen foundation of all we see and do [p. viii].

In general, the aim expressed in the preceding paragraph seems a worthy one. As a whole, it may be said that the book accomplishes its purpose of providing harmless recreational reading. However, one of the dangers involved is that the reader of such a diluted treatment of psychological principles may mistake the froth for the substance and use with harm to himself or others the semi-psychological or pseudo-psychological information secured. Psychology has hardly reached the stage of development and crystallization as a science where it can accurately and safely be popularized for general consumption by children.

CARTER V. GOOD

MIAMI UNIVERSITY

A study of behavior and its relation to the determination of the educative process.—The subject of behavior has always been a source of many moot questions among psychologists. For example, some consider environment, operating through the stimulus, to be the dynamic factor in determining behavior; others consider the nature of the organism to be dominant. Even the S-R formula of common use in analysis of behavior is criticized by some writers, who say that the individual really starts the process and that the stimulus is merely a more or less accidental factor in the formulation of behavior. A recent book[1] sets forth the hypothesis that neither organism nor environment constitutes the starting-point of behavior, but rather an integration of the two. Furthermore, it holds that this interpretation of behavior constitutes the basis for the determination of the educative process.

Starting with Dewey's philosophical analysis of experience, which views experience as an integration of organism and environment, the author recalls recent physiological investigations related to the subject and finds that they support the same theory. Having established support for Dewey's theory, the author sets forth a psychological explanation of behavior which makes clear the integrative reaction of the organism on the environment and of the environment on the organism. Such an explanation exists in the conception of the existence of a functional correlation between the interoceptive and the exteroceptive impulses. Such a conception does not, of course, explain activity which is not directed toward the satisfaction of visceral needs. From the physiological-biological point of view, however, it has been shown that activity not directed toward the satisfaction of visceral needs is a factor in all organic life, evident in each individual cell. It follows, therefore, that activity not directed toward the satisfaction of visceral needs can be explained in terms of the need of each or-

[1] Meredith Smith, *Education and the Integration of Behavior*. Teachers College Contributions to Education, No. 261. New York: Teachers College, Columbia University, 1927. Pp. vi+94. $1.50.

ganism for the type of activity which is commonly classified as "surplus" activity. Furthermore, since human beings have gained their great lead over the animal kingdom because they have found direction for their surplus activity, this type of activity constitutes a factor to be reckoned with in the determination of the educative process. In the last chapter the author recounts his observations in the School of Childhood of the University of Pittsburgh, which indicate that children develop according to the same method by which mankind developed.

The book should find an interested and appreciative audience among pure psychologists and among educational psychologists interested in the determination of the basis of the educative process.

ALBERT GRANT

Intimate biographies of great writers.—Fortunately the teaching of literature is no longer encumbered in the best classrooms with an undue amount of historical and biographical details to be memorized and recited. Fortunately, also, modern textbooks of literature for high-school classes are omitting the voluminous "notes" and long prefatory essays which ten years ago occupied more than half the pages of school "classics." Nowadays both skilful teachers and intelligently made textbooks very largely allow the literature itself to present its appeals to pupils.

Yet the fact is that a close association usually exists between the productions of a literary genius and the intimate personal experiences of his life. Many boys and girls who have enjoyed *Twelfth Night* as a roaring comedy, or *Ivanhoe* as a fascinating story, or *Treasure Island* as a superadventure are just ready not, indeed, for slavishly mastering minute biographical details but for enjoying the "story-lives" of the authors of these masterpieces. Just such a book,[1] written in attractive style and obviously intended for free reading, has been prepared by one who has long been a teacher of youth. Charles M. Raymond has pleasingly presented the life-stories of twenty great English and American authors from Shakespeare to O. Henry. He succeeds in making them seem like real men and women. While Mr. Raymond includes some of the unattractive facts of the lives of Shelley, Byron, and George Eliot, he does so with restraint and dignity, placing such details in proper subordination to the more pertinent elements of the writers' experiences.

Mr. Raymond writes his biographies well; he has a sense of the dramatic. Best of all, he places biography where it belongs in an English curriculum—decidedly subordinate to the literature itself and reasonably independent of it.

R. L. LYMAN

A new United States history.—No one who is considering the adoption of a textbook in United States history for use in the seventh, eighth, and ninth

[1] Charles Marlow Raymond, *Story-Lives of Master Writers*. New York: Frederick A. Stokes Co., 1927. Pp. xiv+370. $2.50.

grades can afford to overlook a recent book[1] written for pupils at the junior high school level.

The authors have effectively combined in a most interesting manner the chronological and topical methods of organization in presenting the picture of the life of the American people and in telling the story of the American nation. The following paragraph from the Preface shows the nature of the departure from the general plan of textbook organization.

> The large divisions are arranged in chronological order. Within each of the large divisions the study units are treated as topics. The material comprised in each study unit is presented topically. Care has been taken to present the topics in a provocative or challenging form, thus encouraging the student to attack the material from the problematic angle, but at the same time leaving him free to organize the problem in his own manner. The whole story is divided into eight chronological divisions, each division into three or more units, each unit into three or more topics, and each topic into a number of headings. There is a foreword for the book as a whole, a foreword for each division, and a foreword for each unit. Two devices are employed to assist the student in gaining his first general impression of the field as a whole, and of each division of the field. One of these is the reference and storybook libraries for the entire field and for each division. The other device is the table of contents for the book as a whole and for each division. Finally, it should be said that the appendixes are likewise an important part of the text. Containing as they do the two most important documents in the history of our nation and many interesting facts about each state and each president, they are not unimportant although they appear where they do [pp. v–vi].

The book is a distinct contribution in its offering of questions, projects, assignments, and stimulating teaching devices. Provision for debates, cause-and-effect relationships, map exercises, reading lists, topics for floor talks, and graphs make this book outstanding in its field.

The reviewer has been using the book in his courses in United States history in the University High School, University of Chicago, for the past year and has found the material well suited to children of upper elementary and junior high school age. The unimportant details of American history are omitted, and the more vital elements of our nation's history are developed interestingly. The book is characterized by a pleasing and youthful style, which clearly indicates that the authors have a keen appreciation of the ideals, interests, and aspirations of boys and girls. In its mechanical makeup the book is appealing and should stimulate new interest in the subject. It is liberally supplied with well-chosen pictures and suggestive charts, maps, and diagrams.

Pupils cannot be expected to learn and retain all the vast store of information known to American history. There are, however, certain well-defined divisions of subject content which are within the comprehension of pupils of junior high school age and which should be understood by them before they enter the senior high school. The authors of this book have indicated their belief in the

[1] Rolla M. Tryon and Charles R. Lingley, *The American People and Nation*. Boston: Ginn & Co., 1927. Pp. xviii+654+xxxviii. $1.72.

foregoing statement and have given to the educational world a book which, while not unitary, presents logically organized and interestingly developed story divisions of our nation's history.

One cannot but regret that history textbooks have not always been written in the fascinating, story-like manner characteristic of this book.

ROBERT B. WEAVER

A work book for American history.—The selection and organization of subject matter in American history for instructional purposes constitute a task of no slight difficulty. Teachers of the subject engaged in such an undertaking will be stimulated and helped by a laboratory manual[1] which has recently made its appearance. Few, if any, publications of the same type are as exhaustive and systematic in character.

The manual is intended as an aid to the study of American history. The material is organized under ten main divisions: "The Background of American History," "Colonizing the Continent," "Forming the American Nation," "Establishing an Independent State," "The Era of National Expansion," "The Slavery Controversy," "Reconstruction," "A Second Industrial Revolution," "The United States—A World Power," and "The World War and Reconstruction." Each of the ten divisions is subdivided into topics, the number varying from four in the case of "The Background of American History" to ten in the case of "Forming the American Nation" and "The Slavery Controversy," the total being seventy-four. The subheadings under "A Second Industrial Revolution," for example, are as follows: "The Development of Railroads," "Coming of 'Big Business,'" "Labor, Capital, and the Government," "The Tariff Controversy," "The Silver Controversy," and "Life in the 1890's." Material for each of the topics is presented under six headings: (1) a guidance outline of the topic to be studied, (2) specific references to selected books, (3) a list of subjects for floor talks, (4) a number of study questions, (5) a list of problems and projects, and (6) an apt historical quotation summing up the heart of the topic.

The foregoing analysis indicates the completeness with which the subject matter covered by the manual has been prepared. Pedagogical aids and suggestions are equally thoroughgoing and impressive. At the beginning of the book is helpful counsel on "How To Use the Manual." Each of the ten main divisions is prefaced by an overview or foreword giving a bird's-eye view of the subjects included in the division. Then comes an admirably selected, annotated book list classified as collateral references, biography and travel, and imaginative literature. A list of suitable motion-picture films is also given. An ample supply of maps and forms is furnished for exercises in the construction of maps, charts, tables, and graphs. Finally, the manual contains twelve new-type tests, including completion, true-false, best-answer, multiple-choice, and continuity exercises.

[1] Howard E. Wilson, *Laboratory Manual in American History*. Chicago: American Book Co., 1927. Pp. 242. $0.96.

Mechanically, the manual leaves little to be desired. It is printed on good paper in clear, clean-cut type and is arranged in an intelligible and convenient form. The leaves are perforated and punched; if the teacher desires, the exercises can be handed in separately and filed later in an ordinary notebook cover, or the manual can be kept intact. Viewed as a whole, the publication is a distinct contribution to manual construction.

HOWARD C. HILL

The course in world-history.—One of the recent developments in the history curriculum is a course in world-history which is not like the older, purely factual and chronological summarizations of past events but is more in the nature of a survey of the development of civilization. The great need in a course of the newer and more valuable type is for "adequate materials," and that need is met, at least partly, by a recently published two-volume series on world-history.[1]

The first of the books is aptly called *World History in the Making;* the second is entitled, *World History To-day.* They are designed for textual use together in either a one-year course or a two-year sequence in world-history, or they may be used separately in courses in ancient history and in modern history. The first book carries the story of civilization from prehistoric times to the end of the eighteenth century. The second book reviews briefly the story of history before 1789 and then carries the development of modern civilization from that date to the present.

The first book is arranged in four parts, made up of thirty-three chapters. The first part contains four chapters developing the theme, "Early Peoples Lay the Foundations of Civilization." In the nine chapters of the second part it is shown that "ancient culture reaches its height under the Greeks and Romans." Chapter vii, "Greek Civilization at Its Height in Athens," and chapter xii, "The Roman Republic: Its Success and Failure," are particularly good. In the latter chapter, the discussion of Roman government is one of the best to be found for high-school use. In the third part eleven chapters present "The Middle Ages: Civilization Declines and Revives." The material on feudalism and the medieval church is unusually good. The fourth part traces "The Beginnings of Modern History" in nine able chapters, among which chapter xxv, "The Renaissance," and chapter xxxiii, "European Civilization Expands Overseas," are typical.

The second book also contains thirty-three chapters, of which the first seven summarize the preceding book under the general topic, "World History before 1789." The second part, "The Great Political and Economic Revolutions," contains chapters on the causes, events, and effects of the French Revolution and the Industrial Revolution. The third part, "Nationalism, Democracy, and

[1] *a*) Albert E. McKinley, Arthur C. Howland, and Matthew L. Dann, *World History in the Making.* Chicago: American Book Co., 1927. Pp. x+742. $1.92.

b) Albert E. McKinley, Arthur C. Howland, and Matthew L. Dann, *World History To-day.* Chicago: American Book Co., 1927. Pp. xxxviii+822. $1.92.

Economic Rivalry," is not well named; it treats of the failure of reaction after 1815 and of the establishment of the modern states of Europe. Material is included dealing with the development of England, France, Germany, Italy, and Russia from approximately 1815 to approximately 1860. The fourth part summarizes the "achievements of the nineteenth century." It presents, particularly, the social and industrial history of the era. The fifth part contains four chapters on "The Spread of European Civilization throughout the World," embodying the expansion of modern industrialized nations into Africa, Asia, and the Pacific regions. The sixth part deals with "The World War, Its Causes and Results." The final chapter, "Reconstructing a Disordered World," is particularly well written.

The style of the books is lucid and clear; the material is well selected, well organized, and well presented for the comprehension of high-school pupils. The study suggestions, which are numerous, are not always as definite and specific as could be desired. At the end of each chapter is a reading list, which, though brief, is unusually well adapted to the age level of high-school pupils. The illustrations are well chosen, and the series of maps is complete. The usefulness of the books is further enhanced by the particularly able and complete teachers' manual[1] which accompanies them. The books are clearly printed and durably and attractively bound.

In general, the two books meet a need strongly felt. They are admirable textbooks and well deserve the widespread use they will undoubtedly have.

HOWARD E. WILSON

Utilizing art in the teaching of literature.—Of the many types of literature, drama is the most unique in that it affords an opportunity for the blending of several arts. Here literature is supported by art and frequently by music and dance. Moreover, the range of dramatic art is itself very large. Even within the limited activities of the secondary school many forms of dramatic art are employed in both classroom and extra-curriculum activities. In addition to the conventional drama, the operetta, the mask, and the pageant seem to have their place in the work of the school. In many schools the class work has made possible a correlation of interests between the English and the art departments which should work for the ultimate good of the pupils even though there is reason to believe that in some cases exaggerated importance has been attached to the many fields of dramatic activity in curriculum-planning.

Among the most interesting of the many types of dramatic entertainment, the marionette drama and the mask play certainly have a place. Both forms derive much from art and literature. Both are among the oldest of dramatic forms. The earliest records of dramatic production reveal the use of the mask. It does not seem to have been confined to any single race. Though of Oriental

[1] Albert E. McKinley, Arthur C. Howland, and Matthew L. Dann, *Teachers' Manual To Accompany World History in the Making and World History To-day.* Chicago: American Book Co., 1928. Pp. 110. $0.60.

birth, marionettes have spread over the world and have enjoyed almost universal popularity throughout the history of civilization.

A recent publication[1] should do much to make accessible to young people much of the pleasure to be derived from these forms of drama. While it is not primarily a school textbook, its contents are based on the concrete experiences of the authors in working with mask, puppet, and shadow plays among high-school pupils, and the many delightful and instructive illustrations reveal what pupils can do with a fascinating form of entertainment. The book is arranged in three sections, the first treating of marionettes; the second, of masks; and the third, of shadows. Each section presents the history of its subject, the literary significance of the form, and the manner of constructing the materials essential to its proper use in a dramatic production. An examination of the table of contents of one section will indicate something of the detail which the authors have employed in the preparation of the book. Five chapters are devoted to the mask: "The Map of the Mask," "Occasions for the Wearing of the Mask," "Making the Mask," "The Costume and Setting for the Mask," and "The Mask with Pantomime, Music, and Dance."

It must be noted that the book is written for the young reader. The style is adapted to his abilities. The historical treatments, naturally, are not exhaustive. Neither are the instructions complicated. In order to ascertain the reactions of young people to the book, the reviewer asked certain of his pupils to read it. They made enthusiastic reports on it.

The values of the book to the teacher of literature are many. Where drama is studied extensively in the classroom, the book will introduce a field about which very little has been written for high-school use. Teachers employing the voluntary project method of stimulating interest in arts and literature will find the book a valuable aid in the suggestions it will offer to their pupils. One of the most effective types of projects by pupils in literature is the marionette play based on a piece of literature studied in class. Many pupils will be interested in the making of masks and in carrying on further investigations into their history.

The book will be suggestive to many instructors who desire help in extra-curriculum activities in the field of drama and art. As a textbook, it will undoubtedly be of more value to teachers of art than to teachers of literature although it is unlikely that time could be devoted to intensive training in the restricted fields covered by the book. As a source book for teachers of both art and literature, *Marionettes, Masks, and Shadows* will be very welcome.

RUSSELL B. THOMAS

Problems of the young superintendent.—Possibly too much of the literature on school administration and supervision has been directed toward the large city system, with few attempts definitely to work out the details of administration in a way particularly applicable to the small school. On this assumption

[1] Winifred H. Mills and Louise M. Dunn, *Marionettes, Masks, and Shadows*. Garden City, New York: Doubleday, Page & Co., 1927. Pp. xii+270. $3.50.

F. L. Whitney has prepared a treatise[1] in an attempt "to discuss the problems met by the superintendent of schools in the small city in the light of principles established in large-city experience" (p. v).

The author begins his discussion with a chapter on "Present Levels of Teaching Skill." This is followed by a chapter on "Determining Teaching Possibility," which centers around the needs and uses of rating cards and which reproduces a form used by the Michigan Education Association. Chapter iii deals with motivation of teachers toward growth and comprehensively presents ten plans involving tangible rewards for such growth. Eighteen extracts from answers to a letter sent to teachers' colleges relative to facilities offered by these institutions for "follow-up" training in service form the basis of chapter iv. Chapter v relates to methods of improvement found in the particular schools where the teachers trained in the teachers' colleges are in service. The next three chapters deal particularly with the superintendent in his relation to the board of education, to the teachers, and to the public. The distinction between the legislative function of the board and the executive function of the superintendent is made clear, and the "line" of appeal from teacher through principal to superintendent is advocated. The relation of the superintendent to the public is conceived to be that of advertising the school by any available means. The last chapter, "Teacher Improvement and School Money," gives an encyclopedic review of common methods of calculating school costs, accompanied by illustrative data.

The material in the book is necessarily not new, and the organization is not unique. The useful annotated bibliography and the stimulating list of "Supervisory Projects and Problems" at the end of each chapter are, however, valuable. These features and the seventeen pages of significant topical statements in the Table of Contents are the outstanding points of the book. Four figures and thirty-eight tables are included in the textual material.

The preparation of the book primarily for the inexperienced administrator in the small town leads one to question the title selected. The title seems particularly far-fetched when one considers the three chapters dealing with the relation of the superintendent of schools to the board of education, to the teachers, and to the public.

The book is written in simple language and indicates several concrete problem situations which justify its use for reference reading in courses in school administration. It is, however, hardly adapted to use as a basic textbook in such courses.

HAROLD H. PUNKE

The function of measurement in developing programs of physical education.—The regulating of athletics in the high school continues to perplex principals and superintendents. That there are evils attendant upon competitive athletics as

[1] Frederick Lamson Whitney, *The Growth of Teachers in Service*. New York: Century Co., 1927. Pp. xl+308. $2.00.

they exist in high schools is well known. The fact that most programs of physical education fail to provide for the varying needs of the individual pupils is also well known. The use of measurements to eliminate these defects has been suggested, but it has remained for a worker in the field to develop such measurements and give them objective and economical form. A recent book[1] sets forth the results of this worker's careful attack on the problem.

The book specifically seeks to develop a technique of measurement which will serve the double purpose of eliminating the undesirable results of present-day competitive high-school athletics and of making possible a program of physical education that will meet the health needs of individuals. To this end the author has combined certain strength tests so as to effect a single valid and reliable measure of athletic ability. By means of this test or measure the author hopes to make possible the equalization of competing individuals on teams, thus removing the source of one major evil attendant upon competitive athletics. Furthermore, when this measure of an individual's athletic ability is related to the norm for age and weight, the author finds in the result an index of physical fitness which will make possible the administration of programs of physical education so as to meet the needs of individuals. The latter part of the book is devoted to the details of organizing differentiated programs for pupils of different needs and to the use of the measure of physical fitness in classifying pupils for such purposes in junior and senior high schools.

To determine the validity of the test of athletic ability, the author has correlated the results obtained from its application with the results obtained from the application of other tests of athletic ability. In establishing the reliability of the test, the author has correlated the results obtained from two applications of the test to the same group of 140 subjects. This results in a correlation coefficient of .94. The range in ability among the subjects is not indicated, but, since they were selected at random and since the test involves physical strength, it seems obvious that the range must have been wide. The high correlation does not therefore necessarily indicate the actual reliability of the test. The determination of the probable error of an individual score would have been a better measure of reliability. The validity of using the test of athletic ability when related to the norm for age and weight as a measure of physical fitness has not been established.

A noteworthy feature of the book is the author's emphasis on the conception of physical education as a means of insuring the health and the social efficiency of the individual. The idea of using measurements to realize this conception of physical education is sound. Furthermore, the measures suggested are well worth trial despite the limitations indicated.

ALBERT GRANT

[1] Frederick Rand Rogers, *Tests and Measurement Programs in the Redirection of Physical Education*. New York: Teachers College, Columbia University, 1927. Pp. xx+166.

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY, AND PRACTICE

CAMERON, EDWARD HERBERT. *Educational Psychology.* New York: Century Co., 1927. Pp. xiv+468. $2.50.

CLEM, ORLIE M. *A Work Book Syllabus in Principles of Education.* Baltimore: Warwick & York, Inc., 1928. Pp. 170. $1.80.

COBB, STANWOOD. *The New Leaven:* Progressive Education and Its Effect upon the Child and Society. New York: John Day Co., 1928. Pp. 340. $2.50.

Contributions to Education, Volume Two. Edited by J. Carleton Bell and Ambrose L. Suhrie. Yonkers-on-Hudson, New York: World Book Co., 1928. Pp. x+426.

DUVALL, SYLVANUS MILNE. *The Methodist Episcopal Church and Education up to 1869.* Teachers College Contributions to Education, No. 284. New York: Teachers College, Columbia University, 1928. Pp. x+128. $1.50.

FINNEY, ROSS L. *A Sociological Philosophy of Education.* New York: Macmillan Co., 1928. Pp. xii+564. $2.50.

HAWKES, EVELYN JONES. *Social Training as a Curriculum Problem.* Philadelphia: University of Pennsylvania, 1927. Pp. 130.

HOLZINGER, KARL J. *Statistical Methods for Students in Education.* Boston: Ginn & Co., 1928. Pp. viii+372. $3.60.

JUDD, CHARLES HUBBARD. *The Unique Character of American Secondary Education.* The Inglis Lecture, 1928. Cambridge, Massachusetts: Harvard University Press, 1928. Pp. 64.

LEWIS, MARY H. *An Adventure with Children.* New York: Macmillan Co., 1928. Pp. xii+250.

MCALLISTER, ABEL J., and OTIS, ARTHUR S. *Child Accounting Practice:* A Manual of Child Accounting Technique. Yonkers-on-Hudson, New York: World Book Co., 1927. Pp. xii+196. $2.20.

MEYER, JACOB G. *Small Colleges and Teacher Training.* Bloomington, Illinois: Public School Publishing Co., 1928. Pp. vi+162.

REED, MARY M. *An Investigation of Practices in First Grade Admission and Promotion.* Teachers College Contributions to Education, No. 290. New York: Teachers College, Columbia University, 1927. Pp. xii+136. $1.50.

SNEDDEN, DONALD SCOTT. *A Study in Disguised Intelligence Tests.* Teachers College Contributions to Education, No. 291. New York: Teachers College, Columbia University, 1928. Pp. 48. $1.50.

STORMZAND, MARTIN J., and MCKEE, JANE W. *The Progressive Primary Teacher.* Boston: Houghton Mifflin Co., 1928. Pp. xiv+352. $2.40.

THAYER, V. T. *The Passing of the Recitation.* Boston: D. C. Heath & Co., 1928. Pp. viii+332.

VAN DE VOORT, ALICE MARIA. *The Teaching of Science in Normal Schools and Teachers Colleges.* Teachers College Contributions to Education, No. 287.

New York: Teachers College, Columbia University, 1928. Pp. iv+96. $1.50.

VAN WAGENEN, M. J. *A Teachers' Manual in the Use of the Educational Scales.* Bloomington, Illinois: Public School Publishing Co., 1928. Pp. vi+276. $1.50.

WILSON, FRANK THOMPSON. *Learning of Bright and Dull Children.* Teachers College Contributions to Education, No. 292. New York: Teachers College, Columbia University, 1928. Pp. 56. $1.50.

YOAKAM, GERALD ALAN. *Reading and Study.* New York: Macmillan Co., 1928. Pp. xii+502. $2.00.

BOOKS PRIMARILY FOR HIGH-SCHOOL TEACHERS AND PUPILS

CARTER, JANE GRAY. *Little Studies in Greek.* Newark, New Jersey: Silver, Burdett & Co., 1927. Pp. x+206. $1.60.

Character Education in Secondary Schools. Report of High School Head Masters' Association. Boston: Boston Public Schools, 1928. Pp. 156.

ELSON, HENRY WILLIAM. *Side Lights on American History:* Volume I, pp. xii+350; Volume II, pp. x+314. New York: Macmillan Co., 1928 (revised).

GREENE, HOMER. *Coal and the Coal Mines.* Boston: Houghton Mifflin Co., 1928 (revised). Pp. 226. $1.24.

IMBERT, LOUIS, and PIÑOL, FRANCISCO. *Fundamentals of Spanish.* Newark, New Jersey: Silver, Burdett & Co., 1928. Pp. xxviii+278+vi.

LAW, FREDERICK HOUK. *Modern Life and Thought.* New York: Century Co., 1928. Pp. xvi+222. $1.10.

MILES, DUDLEY. *English in Business.* New York: Ronald Press Co., 1928 (revised). Pp. viii+442. $1.50.

NÉEL, HENRI C., and KENNEDY, L. F. *A Practical Spanish Grammar.* New York: Prentice-Hall, Inc., 1927. Pp. x+302. $1.50.

Readings from the New Poets. Edited by William Webster Ellsworth. New York: Macmillan Co., 1928. Pp. xx+192. $1.60.

SCOTT, HARRY FLETCHER, and HORN, ANNABEL. *First Latin Lessons.* Chicago: Scott, Foresman & Co., 1928 (revised). Pp. viii+486+44. $1.20.

SIMON, B. *French Topical Exercise Pad.* New York: Globe Book Co., 1927. $0.40.

STORMZAND, M. J. *Answers to Study-Guide Tests in American History.* New York: Macmillan Co., 1928. Pp. 110. $0.40.

STRADER, WILLIAM W., and RHOADS, LAWRENCE D. *Plane Geometry.* Philadelphia: John C. Winston Co., 1927. Pp. xvi+400. $1.40.

WOOD, GEORGE C., and CARPENTER, HARRY A. *Our Environment: How We Use and Control It.* Chicago: Allyn & Bacon, 1927. Pp. xxviii+704+32.

WOODBRIDGE, BENJAMIN M. *La Semeuse.* Chicago: University of Chicago Press, 1928. Pp. xiv+182. $1.50.

PUBLICATIONS OF THE UNITED STATES BUREAU OF EDUCATION AND OTHER MATERIAL IN PAMPHLET FORM

DOUGLASS, HARL ROY. *The Experimental Comparison of the Relative Effectiveness of Two Sequences in Supervised Study.* Education Series, Vol. 1, No. 4. Eugene, Oregon: University of Oregon Press, 1927. Pp. 169–218. $1.00.

The Gold Star List of American Fiction, 1821–1928. Syracuse, New York: Syracuse Public Library, 1928. Pp. 30. $0.25.

JORGENSEN, A. N. *Iowa Silent Reading Examinations.* Studies in Education, Volume IV, Number 3. Iowa City, Iowa: University of Iowa, 1927. Pp. 76. $0.75.

ODELL, CHARLES W. *A Glossary of Three Hundred Terms Used in Educational Measurement and Research.* Bureau of Educational Research Bulletin No. 40. University of Illinois Bulletin, Vol. XXV, No. 28. Urbana, Illinois: University of Illinois, 1928. Pp. 68. $0.50.

PIERCE, ANNE E. *Discriminative Listening Lessons in Music,* Grades I–VI. College of Education Series No. 24. University of Iowa Extension Bulletin Number 176. Iowa City, Iowa: University of Iowa, 1927. Pp. 32.

Plant and Equipment for Vocational Classes in Home Economics. Home Economics Series No. 10. Bulletin No. 124. Washington: Federal Board for Vocational Education, 1927. Pp. x+124.

RAINEY, HOMER P. *A Survey of the Achievement of Oregon Pupils in the Fundamental School Subjects.* Education Series, Vol. 1, No. 3. Eugene, Oregon: University of Oregon Press, 1927. Pp. 113–68. $1.00.

Recent issues of the Bureau of Education:

Bulletin No. 32, 1927—*Statistics of City School Systems, 1925–1926.*

Bulletin No. 33, 1927—*Statistics of Public High Schools, 1925–1926.*

Bulletin No. 35, 1927—*Achievements in Home Economics Education* by Emeline S. Whitcomb.

Bulletin No. 1, 1928—*Educational Directory: 1928.*

THOMPSON, HAROLD G., and ORLEANS, JACOB S. New York Latin Achievement Test. Yonkers-on-Hudson, New York: World Book Co., 1928.

MISCELLANEOUS PUBLICATIONS

SPRAGUE, CURTISS. *How To Make Linoleum Blocks.* Pelham, New York: Bridgman Publishers, 1928. Pp. 64. $1.00.